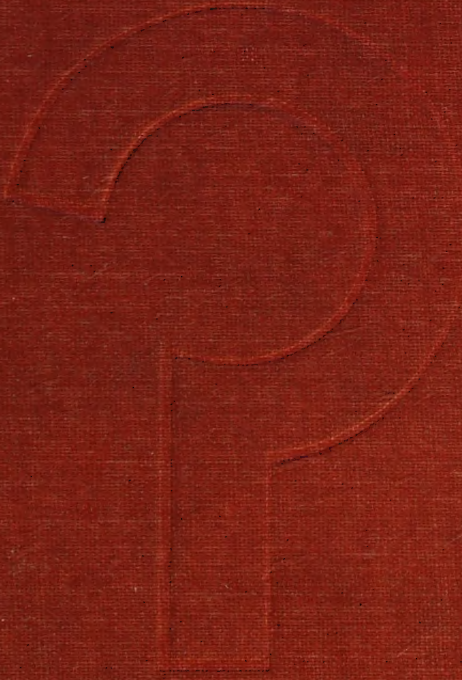
HOW MUCH DO YOU KNOW



THE BOOK OF 1000 FASCINATING QUESTIONS AND ANSWERS

HOW MUCH DO YOU KNOW?

The Book of a Thousand Questions and Answers

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INTRODUCTION

THIS little book has been designed to introduce you to a new world—a world of wonder, a treasury of imperishable riches, an unequalled source of power. For Knowledge is rich and wonderful and—as Bacon said—"Knowledge is Power." In the pages that follow are a thousand questions and answers ranging over the entire universe and all the varied forms of life and activity that exist in it. Even so, these questions and answers *merely touch the fringe*, give you but the tiniest glimpse of the dazzling Wonderland that can be revealed to you if you will only make up your mind to search for it.

At this time, perhaps more than at any other period of the earth's history, culture is a material as well as a spiritual asset. But culture can only be the result of Knowledge—general rather than specialized. That is why this book can justifiably be regarded as important, since it is the key to an immeasurable storehouse of General Knowledge. Try the questions in this book on yourself or on your family and your friends. You will be astonished at the interest you will arouse, amused at some of the answers you will receive and surprised at the gaps in nearly everybody's learning.

To the ever-inquiring minds of children this book will prove a companion that will make leisure hours rich in the things that matter.

But invaluable as you will find this book, it is only a bare outline, as you will understand if you examine the source from which its contents come.

For these are only a few of the vast number o questions and answers taken at random from th twelve volumes of a magnificent library calle "The Wonderland of Knowledge," containing in formation on every subject—written by specialists i a simple yet engrossing style—and illustrated b over 15,000 pictures in colour, line and monochrome

Every home should possess the twelve larg volumes of "The Wonderland of Knowledge." Th children who have it handy, who learn from its page how fascinating the quest of knowledge can be, wil be given every possible chance to do well at schoo and at the same time they are laying the foundation of learning that will stand them in good stead i after life. But so wonderful is this work that whethe your age be 7 or 70 you will never be able to escap the lure of its pages.

Let this little book mark a turning point in you life. Let it be the means of opening up for yo "new worlds of unimagined splendour" and, b introducing you to "The Wonderland of Knowledge, ensure a lifetime of happiness and entertainment.

Dr. Johnson said: "Knowledge is of two kind We know a subject ourselves, or we know where w can find information upon it." That informatio awaits you in the twelve volumes of "The Wonde land of Knowledge."

The Edito

"Wonderland of Knowledge,"
19 Shorts Gardens,
London, W.C.2

How many eyes has a caterpillar?

Six—three on each side of its head. They are of little use, however.

Who was the first man to sail round the world?

Ferdinand Magellan, the Portuguese explorer (*c.* 1480–1521)

How were letters "posted" in the days before Christ was born?

They were carried by messengers. The Assyrians built up a wonderful postal service by which letters were delivered regularly. This service continued working for centuries, and some of the clay letters it delivered are to be seen in our museums to-day.

Who were the first paper-makers?

The wasps. The brood cells constructed by the queen-wasp are made out of a kind of tough waterproof paper which she herself manufactures by chewing tiny fragments of wood into a soft, pulpy mass.

When and where did Lord Baden-Powell first try out his scheme of scout training for boys?

In August, 1907, on Brownsea Island, near Poole, Dorset. Lord Baden-Powell went into camp there with a couple of assistant-scoutmasters and two patrols of Boy Scouts consisting of boys from elementary, secondary and public schools.

What art did the spider teach us?

The art of spinning artificial silk. The spider spins a thread by squeezing a liquid through a very small hole—and that is the way in which we now make rayon, or artificial silk.

What was the old name for China?

Cathay.

Do you know that ants can put an elephant to flight?

In Africa, every living creature flees before a marching army of driver ants: if they did not, they would certainly be eaten alive by the angry insects.

Did Robinson Crusoe actually live?

Yes. Daniel Defoe (1661–1731) discovered the name on an old tombstone, but the adventures he recorded under this title were suggested to him by those experienced by a man named Alexander Selkirk.

Who wrote the words "They also serve who only stand and wait"?

John Milton. It occurs in the famous sonnet on his blindness—yet he, himself, was not content to "stand and wait." He kept on with his work although the power of sight had been taken from him.

How long ago was the first sundial made?

We do not know, although the first mention of such a device is thought to be that found in the Book of Isaiah, chapter 38, verse 8, which dates from about 700 B.C.

Is the glow-worm a worm?

No, it is a female beetle, who, like Peter Pan, has never grown up.

Which is the tallest building in the world?

The Empire State Building, New York. It is 1,248 feet in height, or more than three times as high as St. Paul's Cathedral, London.

Who wears the heaviest boots in the world?

A deep-sea diver. His boots are weighted with about thirty pounds of lead. There is so much air in his suit that he would float like a cork if he did not have these weights.

"To be conscious that you are ignorant is a great step to knowledge." DISRAELI.

Who was the shepherd boy who saved Israel from conquest by the Philistines?

David. He accepted the challenge of the giant Goliath, champion of the Philistines, to single combat, killed him with a stone from his sling and thereby saved Israel.

Which country was the original home of the gipsies?

Not, as is often stated, Egypt, but India.

When is a fly not a fly?

The truest answer to this riddle is "When it has four wings." Fire-flies, dragon-flies, may-flies all have four wings; so they are not true flies. True flies never have more than two.

Is the house-fly a harmless creature?

No, it is very dangerous indeed. Literally, it is crammed with poisonous germs — it may carry at least 7,000,000 of them about with it, and leave 700,000 in every foot-print on our food.

Who was the great genius who, although stone deaf, composed music that will live for ever?

Ludwig van Beethoven.

Where is the largest moth in the world to be found?

In India. It is the great Atlas moth.

Whom did William Shakespeare marry?

Anne Hathaway.

How can we tell the difference between a butterfly and a moth?

The butterfly's antennae have tiny knobs at the ends; the moth's antennae are not thus adorned.

How many stitches can a sewing-machine make in one minute?

About twelve thousand.

"The stream from Wisdom's well,
Which God supplies, is inexhaustible."
BAYARD TAYLOR.

Who was the man who made clocks and watches possible?

Galileo, an Italian. A swinging lamp in a cathedral taught him the secret of the pendulum.

For what chief purpose does the earwig use his pincers?

For packing away his delicate hind wings underneath his very stout wing-cases.

How did a single shot cause France to lose a vast territory in the New World?

In 1609 Samuel de Champlain, the French explorer, killed three Red Indian chiefs of the Iroquois tribe with one shot from his arquebus, and thus turned the powerful Iroquois nation into allies of the Dutch and English colonists.

What makes the glow-worm glow?

A phosphorescent light which is produced from cells of fat lying in the hind part of the insect. The light attracts the males of the species, who come flying from afar to pay their court to the "lady with the lamp."

How do crickets produce their shrill, chirping notes?

By raising their wing-cases and rubbing them briskly together. One wing-case has a sharp edge and the other is like a file.

Why does an audience stand up when the Hallelujah Chorus is sung?

The custom originated when Handel's "Messiah" was first performed in London in 1743, and the king and the entire audience rose to their feet, carried away by the majestic beauty of this noble chorus.

Which is the largest clock in the world?

The Colgate clock at New York Harbour. Its minute hand is nineteen feet long.

Who invented the "scale" used in music?

The ancient Greeks. The one we employ to-day, however, is one of the latest products of civilization —it was invented by Bach.

Who was the famous English scholar who faced death on the scaffold with a smile and a joke?

Sir Thomas More (1478–1535). Condemned to death because he would not recognize Henry VIII as head of the Church, when mounting the scaffold he addressed himself to an officer thus: "I pray thee, see me safe up, and for my coming down, let me shift for myself."

How did Drake "singe the king of Spain's beard"?

He attacked Cadiz and burned the large Spanish fleet that was lying in her harbours. Drake himself furnished the humorous title for this incident.

When was writing invented?

About six thousand years ago.

What did a boiling kettle suggest to the mind of James Watt?

It suggested the possibility of converting steam into a powerful driving force, and this suggestion led him to invent a practical steam-engine.

Which country specializes in the manufacture of buttons made from milk?

Germany. The buttons are known as galalith buttons.

Which is the largest metal arch bridge in the world?

Sydney Harbour bridge, Australia. Its central span alone is 1,650 feet in length.

Where is there a monument that was raised to a flock of gulls?

In Salt Lake City, U.S.A. The birds, by eating an army of attacking locusts, had saved the place from complete destruction.

Why is the ladybird a good friend to the gardener?

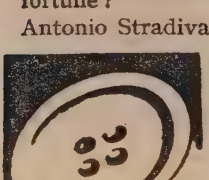
Because the grubs hatched from its eggs feed on one of the gardener's greatest enemies—plant-lice.

Where may one see the largest pearl in existence?

In the Victoria and Albert Museum, London. It weighs about three ounces.

Who made violins which to-day are each worth a small fortune?

Antonio Stradivari (1644–1737), an Italian.



When were buttons first used as fastenings in England?

In the fifteenth century.

Where did the first steel needles come from?

China.

Is a centipede an insect?

No. An insect has only six legs—a centipede may have a hundred or more.

Which was the first opera ever produced?

"Dafne," composed by Jacopo Peri, and performed in 1597 in Florence.

What were the Seven Wonders of the Ancient World?

1. The Pyramids of Egypt.
2. The Hanging Gardens of Babylon.
3. The Statue of Zeus (Jupiter) at Olympia.
4. The Temple of Diana (Artemis) at Ephesus.
5. The Mausoleum of Halicarnassus.
6. The Colossus of Rhodes.
7. The Pharos of Alexandria.

Why is the bombardier beetle so called?

Because, if attacked, it will discharge irritating puffs of white smoke.

Who built the Hanging Gardens of Babylon?

Nebuchadnezzar. He constructed these terraces so that his queen, who had come from a hilly country, should not tire of the flat landscape of Babylonia.

THE HANGING GARDENS OF BABYLON

"The desire for knowledge, like the thirst of riches, increases ever with the acquisition of it." STERNE.

What famous book did John Bunyan write while he was in prison?

"The Pilgrim's Progress."

Who erected the Great Sphinx of Egypt?

Nobody knows; this, however, we do know: it dates from the time of the Pyramids, is a portrait of one of the Pharaohs, and was given the body of a lion by way of showing the ruler's power.

According to the ancient Egyptians, how did the world begin?

They believed that in the beginning there was only a great ocean, but that finally upon it an egg appeared, which hatched into the god Re, who, in turn, gave birth to the Earth and Heaven.

Does a daddy-long-legs bite?

No, it neither bites nor stings. Its forbidding-looking trunk is intended only for lapping up the juices of plants and not for the purpose of sucking your blood.

When was Summer Time first adopted in Britain?

It was adopted for economical purposes during the World War, in 1916.

Who was the first great law-maker in history?

Hammurabi, king of Babylonia. He lived over 4,000 years ago and his collection of laws—the first code in history—was written, or rather carved, not on soft clay, as were other records of his time, but on a great pillar of hard black stone.

When did the horse first gallop into history?

About 4,000 years ago, in the Babylonian kingdom of Hammurabi.

Why was it a difficult task for the boys and girls of ancient Babylonia to learn how to write?

Because in cuneiform, the Babylonian system of writing, there was a separate sign for every syllable, so that there were about 350 signs to learn.

What is one of the modern methods employed to fight an army of invading locusts?

Poison sprayed on them from aeroplanes while they are in flight.

Of what stone is St. Paul's Cathedral built?

Portland stone.

Who was the Greek god of music?

Apollo.

Who wrote the "Canterbury Tales"?

Geoffrey Chaucer.

Where are the largest beetles in the world to be found?

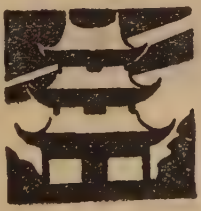
In the dense African jungles, fluttering heavily around the tree-tops.

Can grasshoppers hear?

Yes, very well indeed, though their ears are in the most unusual place. They are to be found on their front pair of legs, just below the knee-joint.

Why do Chinese pagodas always contain an odd number of stories?

Because it is believed that an odd number, which is always held to be masculine, is more powerful in warding off evil spirits than an even number, which is feminine.



Who gave us our alphabet?

It was founded on that of the Greeks, who, in turn, had borrowed largely from the alphabet of the Phoenicians.

Who is said to have been the first man to construct a steam-engine?

A Greek named Hero of Alexandria, who lived over a hundred years before the birth of Christ. It was, however, only a kind of whirligig, little more than a toy, and it was never put to work.

When did three hundred spearmen hold a mountain pass for a whole day against a mighty army?

During the Greek war with Persia, in 408 B.C., Leonidas, king of Sparta, with three hundred followers, defended the narrow pass of Thermopylae against the vast Persian host. At the end of the day, the gallant Spartans were overcome as the result of treachery, and perished to a man, still fighting desperately.

What famous general voted for his own banishment?

Aristides the Just, one of the rulers of Athens. One day in the market-place he was asked by an illiterate citizen, who was ignorant of the general's identity, to write down the name of Aristides for him, as a sign that he voted for the latter's banishment. Aristides did as he requested, but asked the man what reason he had for desiring Aristides' exile. "None at all," replied the man, "except that I am tired of hearing him called 'the Just.'"

What famous poet distributed political pamphlets by sending them up in balloons and throwing them into the sea in bottles?

When staying in Wales, Percy Bysshe Shelley adopted these means of drawing attention to the pitiful condition of the Irish people and inciting them to rebellion. He hoped that his pamphlets would be carried to Ireland by the wind or borne there by ocean currents.

"Our needful knowledge, like our needful food,
Unhedged, lies open in life's common field,
And bids all welcome to the vital feast." YOUNG.

Which monarch was known as the "Sun King"?

Louis XIV of France. This flattering title was given him in allusion to the splendour of his reign and the wealth and magnificence with which he surrounded himself.

When did a great artist sacrifice all his household plates and dishes in order to save his masterpiece?

During the casting of Benvenuto Cellini's celebrated bronze statue of Perseus, word was brought to the great sculptor, who was lying ill, that the bronze had begun to cake and would not flow into the mould. Cellini rose from his sick bed, and collecting all the pewter plates and dishes in the house—about two hundred of them—threw them into the vat of metal. The pewter, acting as a flux, caused the metal to flow once more, and the masterpiece was saved!

Where was money so heavy that an ox could carry only a little of it?

In ancient Sparta. Lycurgus, who gave the Spartans their laws, deliberately made the money heavy so that none of them might grow too fond of it.

Who were the famous twins who were nursed and cared for by a she-wolf?

Romulus and Remus, who were worshipped by the Romans. According to legend they were in infancy set adrift on the Tiber by the wicked King Amulius. Carried to the shore, they were found by a she-wolf, who took them to her den and fed them with her milk. On attaining manhood, the twins avenged themselves on King Amulius and founded the city of Rome.

Where can we read of an intelligent and noble race of horses who employed human beings as slaves to wait upon them?

In "Gulliver's Travels," the celebrated satire by Jonathan Swift. The horses were known as Houyhnhnms, and their human servants as Yahoos.

When did heralds demand tributes of earth and water as a sign that a city had surrendered?

During the war between the ancient Greeks and the Persians, two heralds were sent to Athens with this demand by Darius, the Persian king. Instead of surrendering, the Greeks threw one herald into a pit and the other into a well, where "they might find their own earth and water."

What causes rain?

The heat of the sun makes water evaporate, or become changed into vapour. The vapour rises in the air and collects together in the form of a rain cloud, which, on encountering a current of cold air, condenses at once into drops of water, which fall upon the earth as rain.

What famous author re-wrote a whole book from memory, after the manuscript had been accidentally destroyed by fire?

Thomas Carlyle; the work in question was the first volume of his "History of the French Revolution."

Who was the famous dramatist who was killed by a tortoise?

Aeschylus, the Greek writer of tragedies. It is related that one day as he was resting in a field an eagle, flying overhead, mistook his bald head for a stone and dropped on it a tortoise he was carrying in his beak. The eagle wished to crack the tortoise's shell, so as to enable it to eat the flesh, but its error cost the dramatist his life.

How are hollow statues cast in bronze?

Usually by the "cire perdue," or "lost wax," process. First a solid clay image is made that roughly resembles the finished statue. This image is then coated with wax, which is carefully modelled to represent exactly the surface of the finished work. Another layer of clay is then applied all over the figure, and a hole is pierced at the top to extend as deep as the wax. When the clay has hardened, molten bronze is poured in through this hole, and, melting the wax, fills every crevice in the statue that was occupied formerly by the wax. The latter is allowed to run out through holes in the bottom. When the bronze has cooled, the outer crust of clay is removed, and the inner clay core is also punched and raked out.

Who was the great novelist who as a boy earned his living by pasting labels on to pots of shoe blacking in a factory?

Charles Dickens.

Where do men take refuge from the wind by hiding away in the earth?

In the Western United States settlers resort to specially constructed dug-outs in order to escape the ravages of a tornado.

What celebrated author was able to read through a whole book and afterwards repeat it almost perfectly from memory?

Lord Macaulay, who wrote a famous history of England and the popular "Lays of Ancient Rome." He was one of the most brilliant and versatile men of his age.

Who made it possible for a child to lift an elephant?

Archimedes, the famous Greek scientist, by means of a system of levers and pulleys.

"Knowledge is ecstatic in enjoyment, perennial in fame, unlimited in space, and infinite in duration."
DE WITT CLINTON.

When did explorers save themselves from dying of thirst by drinking the juice squeezed from the roots of a tree?

During their memorable journey through the interior of Australia, Edward John Eyre and his native companion were forced to adopt this expedient. The tree was a kind of gum tree.

When were conquering soldiers hailed as a company of gods by the terrified people whom they had overcome?

When Hernando Cortes and his army overcame the Aztecs of Mexico, the brave and simple people were so overcome with awe and astonishment at the sight of their arms, horses and cannon, none of which they had ever seen before, that they thought the strangers must be nothing less than gods, and did them honour accordingly.

Who was the humble ploughboy who made himself immortal by writing matchless poetry?

Robert Burns, who for some time in his youth was a ploughboy and farm labourer.

Why is the sea salt?

The saltness is due to the fact that streams and rivers carry down to the sea quantities of various mineral salts that are dissolved out of the earth by the rain that falls upon it. Thus the ocean is becoming more and more salty, although at a very gradual rate.

Why do northern races have large noses, while people who live near the Equator have small, snubby ones?

Those who live in the colder climate of the north are provided with large noses so that the air which they breathe may be suitably warmed before it reaches their lungs. Negroes and other dwellers in tropical countries, where the air is always warm, do not need this safeguard.

Where do people build their houses in the tops of trees?

The inhabitants of the Philippine Islands, in the Pacific Ocean, live high above the ground in this manner as a protection from wild beasts and other enemies.

What memorable event in Spanish history is known as the "Dreadful Night"?

The disastrous nocturnal battle of Cortes and his men with the Aztecs, during the conquest of Mexico by the Spaniards. More than half the Spanish soldiers fell in this conflict.

Does the filament of an electric bulb burn when the current is turned on?

No, it cannot burn, for the bulb contains no air and thus has no oxygen to support combustion. It is impossible for anything to burn without oxygen, and the filament is merely glowing, not burning.

What is the origin of the word "ostracism"?

To protect themselves from tyrants, the citizens of Athens adopted a device which, in the end, did them just as much harm as good. When anyone felt that a certain man was becoming too powerful for the good of the state, he might write the man's name on an "ostrakon," or piece of pottery, and put it into a voting urn or jar. When a certain number of these were collected, the man was "ostracized," or banished, for a period of ten years. After that time he might return; all his property was given back to him, and he resumed his normal life as a citizen of Athens.

When did a race of people calculate time by the intervals elapsing between their athletic events?

In ancient Greece time was reckoned in Olympiads, each Olympiad representing the interval of four years that elapsed between two successive Olympic Games.

What famous explorer owed the turning-point of his career to the passage of the planet Venus across the Sun?

Captain James Cook. In 1768, when he was still a comparatively obscure sailor, he was chosen to command a vessel that was taking a number of astronomers and scientists to Tahiti, in the Pacific Ocean, in order to observe a transit of Venus which was due to occur in the following year. This voyage launched Cook upon his great career as an explorer.

Among what race was it customary to make a slave drunk, in order to disgust boys with drunkenness?

Among the ancient Spartans. Drunkenness was forbidden by the laws of Lycurgus, by which the Spartans were ruled, and the method above mentioned was adopted as an example to youth of the degradation and loss of dignity that accompanies drunkenness.

Why does the national flag of the United States bear forty-eight stars and thirteen stripes?

The forty-eight stars represent the number of separate states that have entered the Union since its foundation, while the thirteen stripes stand for the original thirteen states of the Union.

When was an important dispatch sent in three words only?

When Julius Caesar sent the news of one of his great victories back to Rome in the celebrated words "Veni, vidi, vici"—"I came, I saw, I conquered."

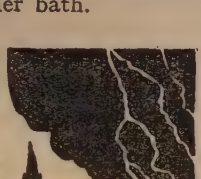
When was a horse elected a magistrate?

In the reign of Caligula, emperor of Rome. Caligula, who was insane, had his horse elected consul, in order to show it honour.

Who was the queen who bathed in asses' milk in order to preserve her beauty?

Poppaea, the wife of the Emperor Nero. She was so extravagant and fond of luxury that when she travelled she was accompanied by a herd of asses, which furnished the milk for her bath.

What is the cause of lightning?



It is thought to be the result of the shattering of the electrified raindrops by the powerful updraught in a "cumulus" cloud (or thunder cloud) in which rain is being formed.

Do all parts of the earth experience thunder storms?

No. Round the equator they are very frequent, but it is probable that they never occur at all at the Poles.

When were rulers made gods and worshipped with divine honours?

During the Roman Empire, many of the emperors were distinguished in this fashion. Julius Caesar was elected a god by the senate and had a temple erected in his memory. Augustus was even worshipped as a god during his own lifetime, and Claudius was declared a god after his death. But Tiberius, Caligula, Nero and several other emperors were so hated by the people that they were not elected gods.

Who was the celebrated novelist who was so affected by the deaths of the imaginary characters in his own books that he wept?

William Thackeray. It is recorded that he was often affected to the point of tears by the deaths of the characters that he had created. One day, for instance, when he was writing "The Newcomes," he ran out of his study sobbing, "I have just killed Colonel Newcome."

When was it believed that the loss of a battle was due to a general's having caused the death of some chickens?

The Romans ascribed the cause of the defeat of one of their expeditions against the Carthaginians to a lack of religious feeling on the part of their consul and leader, Publius Claudius. Before the battle in question, Claudius was informed that the sacred chickens, which were carried about with the army, refused to eat. "Let them drink, then," he hastily exclaimed, and ordered the fowls to be thrown overboard.

What causes a deep-sea fish to burst when it is brought to the surface?

A mile down in the ocean the weight of the water is more than a ton to the square inch. A deep-sea fish is able to withstand this enormous pressure because the water contained in its body is at the same pressure. But when the fish is brought to the surface the external pressure upon it is thereby reduced, and the internal pressure causes it to burst.

What is the coldest place in the world that is inhabited permanently by man?

Verkhoyansk, in Northern Siberia, where the temperature sometimes falls as low as 94° F. below zero.

Who was the celebrated woman who every night unravelled the cloth that she had spent the whole day in weaving?

Penelope, the faithful wife of Ulysses in Homer's "Odyssey." She contrived this stratagem for repulsing the numerous suitors who besought her to marry them in the long absence of Ulysses, who was believed to be dead. Not wishing to marry again, on account of the love she bore her husband, Penelope made the importunate suitors agree to wait until she had finished the cloth she was weaving, and every night she unravelled the work. When Ulysses returned unexpectedly after his long absence and numerous adventures, he slew the suitors.

PENELOPE AT HER LOOM

What famous general originated a well-known saying by marching across a tiny river nearly two thousand years ago?

Julius Caesar, when he crossed the River Rubicon, that divided Italy from Gaul, during his fateful march on Rome in 49 B.C. Caesar's whole future career depended upon this step, so that to this day when we are referring to anybody who has made an important decision from which there is no turning back, we say that he has "crossed the Rubicon."

Where are there great cliffs under the sea?

Beneath most of the oceans of the world. Contrary to general belief, the floor of the sea is not flat and level, like a plain, but is broken up into hills, valleys, crags and lofty cliffs, just like the surface of the land.

What was the accident that led to the discovery of how to make Sheffield plate?

About the year 1742 Thomas Boulsover, an English craftsman, was mending a knife made of copper and silver when he accidentally overheated it and then, to his surprise, found that the silver had fused—or become one—with the copper, thus revealing the principle upon which plated silver-work could be made. This casual error gave rise to an important industry.

What famous author wrote masterly novels in a foreign language that was quite unknown to him during the early part of his life?

Joseph Conrad, who was a native of Poland, and whose real name was Joseph Konrad Korzeniowski. At the age of twenty-one he knew scarcely a word of English; in his later years, however, he became one of the greatest writers of English prose.

"Knowledge descries alone, wisdom applies;
That makes some fools, this maketh none but wise."
QUARLES.

What strange places were used as the first Christian churches?

The persecuted early Christians held their religious services in the catacombs—dark, underground passages beneath the city of Rome, which had been constructed by the Romans as places in which to bury their dead. Here were to be found the first regular churches.

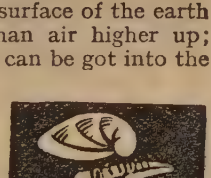
Which Roman emperor was also a great author and philosopher?

Marcus Aurelius, who reigned from A.D. 161 to 180. He was a man of upright character, who ruled his empire justly and well. His "Meditations," which represent the fruit of his gentle philosophy, has proved one of the most popular books ever written.

Does a room on the seashore hold as much air as a room of the same size on a mountain?

It holds more, for the air near the surface of the earth is more tightly compressed than air higher up; therefore a greater weight of air can be got into the room on the seashore.

What creatures have no mouth or stomach, and yet live by catching and eating their prey?



The Foraminifera, a minute form of sea life. They catch their food by entangling it in threads of jelly, which fuse together until the food is enveloped in a living net. It is then digested at that particular part of their bodies with which it has happened to come into contact.

Which two celebrated English poets were also great painters?

Dante Gabriel Rossetti, one of the leaders of the Pre-Raphaelite movement, and William Blake.

"Wisdom and fortune combating together,
If that the former dare but what it can,
No chance may shake it." SHAKESPEARE.

When was an entire navy captured at night by an enemy fleet, because the sailors had deserted their ships and were carousing on shore?

This happened in the Third Peloponnesian War. The Athenian navy was accustomed to parade every day before the harbour in which the enemy's ships were anchored, with the hope of enticing them to venture out and fight. One day, however, after returning to their base, the Athenians left their boats unguarded on the shore and went on land to enjoy themselves. The Spartan commander, Lysander, took this opportunity to enter the Athenian base and make off with their boats. This ended the war, and with it passed away the power of Athens.

What famous writer was known as the "Wizard of the North"?

Sir Walter Scott. This name was popularly given to him when he was issuing the Waverley novels and at the same time concealing his true identity.

Who was the famous British explorer who was known as "Father of Mustachios"?

Sir Richard Burton, who is celebrated for his remarkable journey to the sacred cities of Mecca and Medina. This strange nickname was given to him by the Arabs with whom he associated as one of themselves.

What is the famous banquet at which the prime minister must always arrive last of all the guests?

The Lord Mayor's Banquet, which is held every year in the Guildhall. The curious custom mentioned above is only one instance of the old and traditional ceremonial that is still observed at this famous dinner.

"Learning doth make the mind of man gentle, amiable, and pliant, whereas ignorance makes them churlish, thwarting and mutinous." BACON.

Who was the famous English poet who chose as his epitaph the words, "Here lies one whose name was writ in water?"

John Keats. The words can still be seen on his tomb in the Protestant Cemetery at Rome.

What are "devil's work balls," and where do they come from?

A number of carved ivory balls—sometimes as many as ten—one inside the other. They are made by the clever ivory carvers of Canton, China.

What are the "doldrums"?

A belt of calms near the Equator, where in former days ships might lie for weeks without the least breath of wind to blow them on their way. They were the terror of all sailors who travelled in these latitudes, and though modern steamships are not subject to such inconveniences, we still retain the phrase "in the doldrums," meaning "in low spirits."

What were the "horse latitudes"?

The windless belt known as the "calms of Cancer" was also called by this name, because in former days sailing-ships were often becalmed here for so long at a time that, owing to shortage of water, their cargo of horses had to be thrown overboard.

What famous general led an army containing many elephants over the snow-bound Alps?

This was one of the exploits of Hannibal, leader of the Carthaginians, during his great struggle with Rome that is known as the Second Punic War (218 B.C.). With an army of forty thousand men and a number of elephants, he made his way in the dead of winter through almost impenetrable paths over the mountains, and emerged, to the great surprise of the Romans, upon the plains of Italy. This feat has never since been equalled.

' If we do not plant knowledge when young, it will give us no shade when we are old." CHESTERFIELD.

What general is famous in history as "the Delayer"?

Quintus Fabius Maximus, leader of the Romans against Hannibal and his Carthaginians during the Second Punic War. He was surnamed "Cunctator," meaning "the delayer," owing to the tactics which he employed. Recognizing that the Romans were almost certain to lose a pitched battle, he continually harassed the enemy instead, following them about everywhere, but carefully avoiding a definite engagement. In the end, his tactics met with success.

Is the longest day of the year that is experienced at Calcutta of greater length than the longest day experienced in Iceland?

No, it is very much shorter. Calcutta's longest day is about fourteen hours, while that of Iceland lasts for twenty-two hours, the explanation being that the nearer one goes towards the poles of the earth the longer are the days in summer.

When did an extraordinary army of twenty thousand children set out to do battle against one of the most powerful fighting forces in the world?

In the year 1212, in what is known as the Children's Crusade. Led by a boy named Nicholas, they set out to recapture the Holy Land from the Saracens. But the greater number of this remarkable band fell by the perils of the wayside, and very few arrived home safe and sound.

What valuable secret of metallurgy that was known to the ancients, and was lost when their civilizations passed away, now defies all the skill and research of modern scientists?

The art of tempering bronze, which was used by the ancient inhabitants of Crete and by the Egyptians and other races in the manufacture of their swords and other objects, but for centuries has been completely lost.

Who was the famous poet who was haunted all his life by depression and fear, and yet is perhaps remembered best as the author of a light-hearted and rollicking ballad?

William Cowper, who, in spite of being a prey to melancholia and insanity, achieved a masterpiece of high-spirited humour in "John Gilpin."

Where was there a lofty building that was covered from top to bottom with beautiful porcelain?

At Nanking, China. It was built in the fifteenth century, and had walls covered with white porcelain, and overhanging eaves covered with tiles of green porcelain. This strange and splendid pagoda was destroyed in the middle of the nineteenth century.

When was a battle between two infuriated armies stopped by women?

There is a story that the early Romans obtained their wives by capture, seizing them treacherously from a tribe called the Sabines during the course of a religious festival. Later on, when the Sabines sent an expedition against the Romans to punish the latter and recover their womenfolk, a furious battle was averted by the women themselves, who, with their children, rushed between the opposing armies. They had grown to love their captors as much as they did their parents.

When we bring a jug of cold water into a warm room, why does the outside of the jug become covered with dew?

Cold air holds much less moisture than the same amount of warm air. Consequently, when the warm air surrounding the cold jug becomes chilled, it is forced to give up a great deal of its moisture, which collects upon the outside of the jug in the form of tiny beads of dew.

What is the explanation of blood-red rain?

Rain that is of a blood-red colour falls sometimes in districts lying north of the Sahara Desert, occasionally as far away as Sicily. It is caused by the sirocco wind blowing over the desert and picking up quantities of fine red dust. When chilled, the wind gives up its moisture, which falls as rain, tinted crimson by the dust.

When did a few workmen make fifty thousand javelins and thirty thousand shields in fifteen days?

When the Roman general, Publius Scipio, was making preparations for a war with the Carthaginians. It is recorded that he entrusted the work of arming his men to the Etruscan bronze-workers of a single little town. The work was done, of course, by hand throughout.

When did geese save a city from conquest?

During an attack on Rome by the Gauls, a daring band of the latter were scaling the wall of the fort on the Capitoline Hill. Success was almost within their grasp, when they awoke the sacred geese that were kept there, and the latter warned the garrison with their cries. The Romans rushed to the wall and repulsed their enemies, and thus the Capitol was saved.

When were tyrants regarded as wise and considerate rulers and supported by the people over whom they ruled?

In early Greece a "tyrant" was a ruler of a city; he was not a king, but a dictator, and often supported the cause of the common people against the rapacious nobles.

Which Roman emperor is famous for the gigantic walls which he caused to be built?

Hadrian (117–138). In order to strengthen his empire,

he erected walls wherever the boundaries of provinces were weak, so that they could be more easily kept in order by his soldiers.

Can a photograph be taken in the dark?

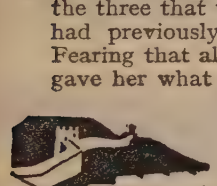
Yes, by means of special plates which have been made sensitive to the infra-red rays of the solar spectrum. Experiments have been made whereby objects which are quite invisible to the human eye, owing to darkness or fog, are clearly seen on a film.

Where can we see a Roman city that is still almost exactly as it was in the time of the Empire?

At Pompeii and Herculaneum, not far from Naples.

Who was the haughty monarch who was glad to buy three books for the same price which he had formerly refused to give for nine?

He was Tarquin the Proud. One day a sibyl, or prophetess, offered him nine books of prophecies for a large sum. Tarquin refused to give so much, whereupon the wise woman burned three of the books and offered the remaining six to the king at the same price. Tarquin again refused her offer, and the sibyl again burned three books, offering to sell the three that were left at the same price that she had previously demanded for the original nine. Fearing that all the volumes might perish, Tarquin gave her what she demanded.



How long is the Great Wall of China?

About 1,400 miles.

Why does the sun not burn out?

Because the space in which it floats is a vacuum. Air is necessary for burning.

Where was there a palace with seven hundred rooms but not a single window?

At Khorsabad, near Nineveh; it was the palace of Sargon, who was king of Assyria in the eighth century before Christ.

"The sea does not contain all the pearls, the earth does not enclose all the treasures, and the flintstone does not enclose all the diamonds, since the head of man encloses wisdom." SAADI.

How is a coral reef formed?

By minute sea creatures called polyps, which use a part of the food they eat, consisting of carbonate of lime, to build platforms for themselves upon an undersea rock. Layer upon layer is made until the reef emerges above the surface of the water.

When and where was the first bicycle invented?

In 1816, in France. It had no pedals, but the rider propelled it by thrusting his feet against the ground.

Do you know that a star-fish can devour an oyster?

So great is the power exerted by its vacuum feet, that a star-fish can clasp an oyster on either side and draw the shell apart. It then pushes a "food-bag" into the shell and enwraps the contents.

What is the area of the Atlantic Ocean? Which is the largest ocean?

35,000,000 square miles. The Pacific, which is 68,000,000 square miles.

Do you know what a sea-anemone is?

It is an animal. It catches small water-creatures with its tentacles, on which are poisoned barbs for paralysing its victims.

Who was the greatest speech-maker of ancient times?

Cicero, the silver-tongued orator of Rome. One of his finest achievements was the denouncement of Cataline, who planned to overthrow the state. Later Cicero attacked both Julius Caesar and Mark Antony. He was exiled by the former, and the latter had him put to death in 43 B.C.

Do you know that every time you write on the blackboard you leave millions of sea-shells there?

The shells of tiny sea animals, which form an "ooze" at the bottom of the ocean, gradually accumulate and are compressed by the sediment above. This "ooze" turns into chalk after many millions of years.

How old is the earth?

Astronomers believe that it may be two or three thousand million years old.

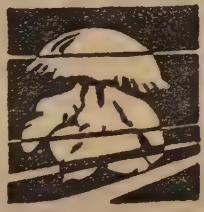
When was the first steam-engine invented?

Some two thousand years ago, by Hero of Alexandria. It was not put to work.

What is a campanile?

A bell tower, so named from the Italian "campana," a bell. One of the most famous is the Leaning Tower of Pisa.

Can a jelly-fish sting?



Yes. Although its poison is fatal to small sea-creatures it is seldom very harmful to human beings.

Who first began the building of Westminster Abbey?

Edward the Confessor, in 1050.

When was the world's first passenger railway opened?

On September 27, 1825. It was a line of about twelve miles between Stockton and Darlington. On a trial trip George Stephenson, with his locomotive "Active" drawing one coach and thirty-three wagons, covered the distance in three hours and seven minutes including stoppages.

When was the Suez Canal opened?

In 1869.

By whom and when was the Great Pyramid built?

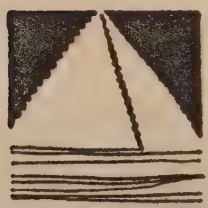
By King Khufu (Cheops), in 2,900 B.C. It took a hundred thousand slaves eleven years to complete.

Why do we talk of the "limelight" in a theatre?

Formerly the best means to light the stage brightly was by an intensely heated cylinder of lime which glows dazzlingly but does not burn. To-day electrical apparatus has almost entirely superseded the old "limelight."

Is there more land than water in the world?

No. The land area is 52,000,000 square miles, while oceans, rivers and lakes cover the enormous area of 145,000,000 square miles. In other words, water covers nearly three-quarters of the earth's surface.



Why did the Egyptians build Pyramids?

They built them as tombs for their kings. The mummified body of a monarch was so placed in each of them as to make it as difficult as possible for the mummy, and the rich things buried with it, to be found. Innumerable "blind" passages were constructed, while frequently the alleys leading to the actual tomb were filled with obstructions to keep out robbers searching for loot.

Where was an island wiped off the map?

Between Java and Sumatra there was a volcanic island called Krakatoa; suddenly, in May, 1883, the volcano erupted and three months later, following a terrific explosion, the island was blown in two and eventually sank. The explosion caused a gigantic wave on the sea which drowned 36,500 people on the neighbouring coasts.

Who first began to build the Tower of London?

William I, about the year 1078.

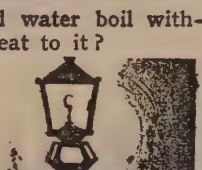
"Knowledge widens our capacities : the higher we mount in it the vaster and more magnificent are the prospects it stretches out before us." J. C. AND A. W. HARE.

What king said "Let all men know how empty and worthless is the power of kings" ?

The Danish king, Canute, who died in 1035. The legend runs that one day he went to the sea-shore and bade the waves not to advance; but when they rolled in and wetted his feet, he turned to his courtiers and uttered these words.

How deep down in the earth would water boil without it being necessary to apply heat to it ?

About 4,000 feet.



Which London street was first lit by gas ?

Pall Mall.

When was paraffin oil first used for lighting ?

About the year 1853; formerly "sperm oil," from whales, or "rape oil," was used.

What animal has one foot and two horns ?

The trochus, a sea-creature which inhabits a tent-like shell which one often finds by the seashore. His foot is exceedingly muscular, while his well-shaped head bears a pair of slender horns and two dark, beady eyes mounted on short stalks; on each side is a broad lappet bordered with a frill of multi-coloured hairs.

Who was the French poet who was also a hardened criminal ?

François Villon, who was born in Paris in 1431. He wrote many beautiful poems, the most famous being his "Great Testament," which is a mock will. From earliest youth he took to crime, being involved in robberies and even murder. More than once he was condemned to death, but eventually suffered banishment and was thus lost to history.

"Wisdom and understanding are synonymous words; they consist of two propositions, which are not distinct in sense, but one and the same thing variously expressed."
TILLOTSON.

What does it cost to build a battleship?

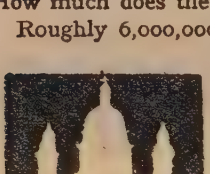
About £6,000,000.

What is a sponge?

The skeleton of a sea-animal.

How much does the earth weigh?

Roughly 6,000,000,000,000,000,000,000 tons.



Who designed St. Paul's Cathedral?

Sir Christopher Wren (1632–1723), who was also responsible for some fifty parish churches.

Who was Euripides?

One of the greatest dramatists of Greece, born about 484 B.C.

What was the Colosseum?

An enormous amphitheatre in Rome, capable of seating forty to fifty thousand people, and the scene of unspeakable cruelties in the form of gladiatorial contests, the throwing of Christians to the lions, and fights between wild beasts. The "stage," which consisted of an open space in the middle of the tiers of seats arranged in the shape of an oval, was called the "arena" because it was covered with sand—"arena" being the Latin word for sand. The Colosseum was honeycombed with passages which led to various underground chambers where the animals, gladiators and prisoners were kept. The ruins of the Colosseum stand to-day.

How fast does the earth travel round the sun?

At more than a thousand miles a minute.

Where is the largest active volcanic crater in the world?

In the volcano Kilauea, in the Hawaiian Islands.

Who was known as "the Great Jester of France"?

This was the name given by Lord Bacon to François Rabelais (1495–1553), who wrote wittily about the fantastic adventures of two imaginary giants called Gargantua and Pantagruel. The story is really a biting satire on the conditions of society in Rabelais' day, especially the evil life of the monks and the poor education offered by the schools of that time.

Who was Virgil?

The greatest poet of the Roman Empire, whose parents were farmers, and who became famous for his poems concerning farming and life in the country. His greatest achievement was the "Aeneid," which tells of the greatness of Rome and her heroes. This poem took him eleven years to complete, working at the rate of only a few, but exquisitely fashioned, lines each day. Virgil was born in 70 B.C. and died in 19 B.C.

Can plants and animals live in the Dead Sea?

No. The Dead Sea contains such a strong solution of salt that nothing can survive in it.

Who built the first good roads in Britain?

The Romans.

How much salt is there in the Great Salt Lake in U.S.A.?

It is thought to contain some 400,000,000 tons.

What is the length of the Great Barrier Reef of Australia?

This enormous coral reef extends along the north-east coast of the continent for a distance of 1,260 miles.

Which is the greatest lake in the world?

The Caspian Sea, in the south of Russia; it has an area of 170,000 square miles and in places is over 3,000 feet deep.

Which is the deepest ocean?

The Pacific, with an average depth of 2¾ miles.

Where are goatskins and sheepskins used to float a raft?

In the Tigris and Euphrates valleys. The skins are inflated and attached to a timber raft, which is loaded with goods. The craft is then poled down the river to the market, where both goods and timber are sold. The owner trudges home with the deflated skins on his back.

What compass does not depend on magnetic attraction?

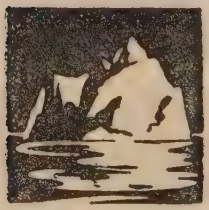
The gyro-compass, used almost universally by ships and aeroplanes. It points to the true north and is dependent upon the rotation of the earth.

What crab carries a sea-anemone in each of its claws, and why does it do so?

The Melia crab, that lives on the shores of the Indian Ocean. In each of its big claws is one of these flower-like animals which the crab utilizes as a means of procuring food. Directly any small creature is captured in the tentacles of the anemone the crab picks off the dainty and devours it.

Is there a rock that can be bent?

Yes; flexible sandstone, which contains fragments of mica.



What is the origin of icebergs?

They are portions of glaciers which slip down into the sea, mostly off the coast of Greenland. Only about an eighth or ninth of the total bulk is above the surface of the water.

What city was "wedded" to the sea each year?

Venice. A ring was cast into the Adriatic during an annual ceremony as a token that the prosperity of the city was dependent upon sea-trade.

"The mind of man is this world's true dimension; and knowledge is the measure of the mind." GREVILLE.

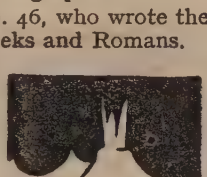
Why are buildings of the style of Westminster Abbey called "Gothic"?

This elaborate style, which can be so beautiful as to be described as "frozen music," actually bears a name which implies crudeness and barbarism. It was so called, five or six hundred years after it originated, by people who believed that the architecture of the Greeks and Romans only was worthy of admiration, and that the other style was typical of the savage Goths who overthrew the ancient civilization.

Who was the most famous of ancient biographers?

Plutarch, a Greek, born about A.D. 46, who wrote the "Parallel Lives" of notable Greeks and Romans.

How is a volcano formed?



Through a weak spot in the earth's crust, gases, which are given off by molten rock inside the earth, burst through, together with molten rock or "lava." The material emitted gathers in a heap round the chimney and, in time, a great cone—perhaps 3,000 feet in height—is formed.

What happens to limestone if it is subjected to enormous heat and pressure and then cooled under pressure?

It becomes marble.

Why are gun-barrels grooved inside?

They are "rifled," or grooved, to make the shell spin as it is shot out, this spinning motion causing it to fly straight.

Why were Henry II and his descendants called Plantagenets?

Because one of their ancestors wore a sprig of broom called "planta genista" in his helmet as a badge.

"All foreign wisdom doth amount to this,
To take all that is given, whether wealth,
Or love, or language ; nothing comes amiss ;
A good digestion turneth all to health."

HERBERT.

What is the "Giants' Causeway"?

A curious pillar-like formation of rocks on the north-east coast of Ireland.

What is the Parthenon?

An ancient Athenian temple of white marble, the ruins of which stand to-day. It is considered by many to be the most beautiful building that the world has ever seen.

What is Stonehenge?

A giant circle of stones on Salisbury Plain, the ruins of an ancient Druid temple.

What is "dry ice"?

Frozen carbon dioxide gas at a temperature of 190° F. or 141° F. colder than ordinary ice.

What is Hadrian's Wall?

A wall originally seventy miles long, extending from Wallsend-on-Tyne to Bowness in Westmorland. It was built by the Roman Emperor Hadrian about the year 122, as a protection against the raids of the Picts and the Scots.

What is a neon sign?

It consists of a tube filled with neon gas through which an electric current is passed, causing it to glow red. Other gases are added to produce blue, green and various colours.

Who wrote the first essay?

Michel de Montaigne (1533–1592).

Who designed the Banqueting House in Whitehall?

Inigo Jones (1573–1652).

THE PARTHENON

What is a "dowser"?

A water-diviner.

What is the Domesday Book?

It is really the first census of England, and was compiled under the orders of William the Conqueror. It contains a record of the farms and estates, and the people who lived upon them, during his reign.

What keeps a railway-engine on the track?

Flanges on the inner sides of the wheels which press against the rails and prevent slipping either to the right or left.

What is a seismograph?

A device for recording earthquakes, consisting principally of a sensitive pendulum which operates a pen. The latter traces a wavy line over a piece of smoked paper as long as the trembling lasts.

Who invented the X-ray?

Wilhelm Konrad von Röntgen, a German scientist. His invention was made known in 1895.

What is a Westinghouse brake?

A brake operated by compressed air, which was patented by George Westinghouse, an American, in 1869.

What causes the moon to shine?

The reflection of the sun's rays which strike it.

What is the Salic Law?

A law, properly established during the reign of the Frankish king Clovis, which limited succession to the throne to male heirs only.

Which is the most beautiful tomb in the world?

The Taj Mahal at Agra, India, built of pure white marble and inlaid with precious stones. Shah Jehan, a Mogul emperor of the seventeenth century, caused it to be erected in memory of his wife.

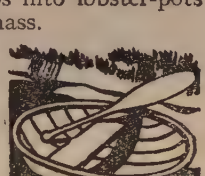
"Learning maketh young men temperate, is the comfort of old age, standing for wealth with poverty and serving as an ornament to riches." BACON.

What "cotton spinner" is the enemy of fishermen?

A species of sea-cucumber is given this name because it throws out from its mouth a mass of threads like cotton. It frequently creeps into lobster-pots and fills them with the sticky mass.

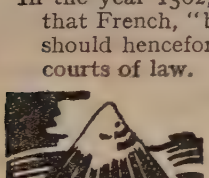
What is a coracle?

A primitive boat, still used in Wales and Ireland, made of skins or oiled cloth stretched over a wicker-work frame.



When was English first recognized as the official language of England?

In the year 1362, when an act was passed declaring that French, "being much unknown in this realm," should henceforth be superseded by English in the courts of law.



What is the amount of pull necessary to tear a limpet from a rock?

Over sixty-two pounds.

What slave won his freedom because of his talent for story-telling?

Aesop, the famous Greek, who was born in the seventh century before Christ, and who originated the greatest collection of fables in the world. He travelled in many lands, and was said to have settled difficult affairs of state because of the shrewd reasoning in his picturesque tales.

Which was the first English expedition to America?

That of John Cabot, when he discovered Cape Breton Island, and claimed it for Henry VII.

Who gave us our present calendar?

Pope Gregory XII, who in 1582 revised the Julian calendar then in use.

How did Saint Patrick first reach Ireland?

He was taken there as a slave in the year 401.

What is a rattle-snake's rattle made of?

It is made up of a number of loose horny rings inside the skin at the end of the creature's tail.

When was Wales united to England?

In 1535.

What is the Welsh National Eisteddfod?

An ancient, yearly festival of poetry and music.

Who was the first Labour member of Parliament?

Keir Hardie, elected in 1892.

Who built the first motor-car fitted with a petrol engine?

Gottlieb Daimler.

Why should the guy-ropes of a tent not be too tight?

Because rain will tauten them up to a surprising extent, and the tent may collapse one night when you are asleep.

When were Labour Exchanges first set up?

In 1905.

When was workmen's compensation introduced?

In 1897. A later law was passed in 1906.

When was state insurance introduced for health and unemployment?

Health insurance in 1911, and the unemployment measure in 1920.

Whence is the name "Rotten Row" derived?

It is said that this fashionable drive in Hyde Park, London, gets its name from the French phrase "route du roi" (the king's road).

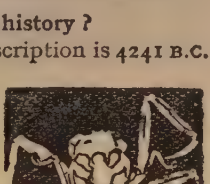
Who built the first successful airship?
Henri Giffard, in 1852. His was a cigar-shaped balloon propelled by a steam-engine.

What are stalactites and stalagmites?
Stony masses formed in caverns by mineral-laden water that percolates the rock. Stalactites hang from the roof and stalagmites rise up from the floor.

Which English statesman was known as the Great Commoner?
William Pitt the elder, later first Earl of Chatham.

What is the earliest date in Egyptian history?
The oldest date recorded in an inscription is 4241 B.C.

What kind of crab has a shell resembling a comic mask?
The Japanese Crab.



What battle secured India for Britain?
The battle of Wandewash, in 1760.

Where do we obtain artist's sepia?
From the ink-bag of the cuttle-fish.

When was slavery abolished in British possessions?
In 1833; the slave trade was done away with in 1807.

Who were the "Princes in the Tower"?
Edward V and his younger brother the Duke of York. Both were murdered in the fortress by order of Richard III.

Whence are the names of the months derived?
From those in the ancient Roman calendar.

What is the most famous "rogue" story?
"Gil Blas," written by Alain René Le Sage.

"Wisdom is the olive that springeth from the heart, bloometh on the tongue, and beareth fruit in the actions."
GRYMESTONE.

What is a mermaid's purse?
The horny egg-case of a skate or a dog-fish.

Who introduced printing into England?
William Caxton, who set up his press in 1476.

Upon which part of its body does a flat-fish lie?
Upon its left side.

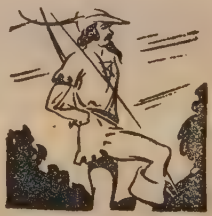
At which battle did the Roundheads completely defeat the Cavaliers?
The Battle of Naseby, 1645.

Who was the first of the Greek philosophers?
Thales of Miletus, born 640 B.C.

Which queen of England forbade the playing of bagpipes in Scotland?
Queen Anne.

Who was the first to put forth an atomic theory?
Democritus, a Greek philosopher.

Who first codified Irish law?
Cennfaelad, who died in 679.



Which English King is Robin Hood said to have entertained in Sherwood Forest?
Richard the Lion-hearted.

When was Charles I beheaded?
On January 30, 1649.

When was education made compulsory in Britain?
The first Education Act was passed in 1870; others followed in 1876 and 1880.

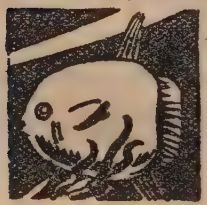
Who wrote the opera "Carmen"?
Prosper Mérimée composed the story, and Georges Bizet made it into an opera.

CARMEN

"The learning and knowledge that we have is at most but little compared with that of which we are ignorant."
PLATO.

When did an encyclopædia help to bring about a revolution?

Diderot's encyclopædia, 1751–1772, contained new and bold ideas that enlightened men's minds and paved the way for the revolution of 1789 in France.



What fish has a head larger than its body?

The sun-fish.

Who was the last of the Stuarts to occupy the English throne?

James II, who fled to France in 1688.

Who discovered the capillary blood vessels?

Malpighi, an Italian.

Who made the first road locomotive?

Cugnot, a Frenchman, in 1769.

Who was the most prolific French novelist?

Alexandre Dumas, who claimed to have written twelve hundred volumes.

Who was the first prime minister of the British government?

Robert Walpole, in 1721.

Which queen of England reigned only for nine days?

The ill-fated Lady Jane Grey.

What was Chartism?

A working-class movement that aimed at securing electoral and other reforms, which were set out in the People's Charter in 1838.

Who was the heroine of the Crimean War?

Florence Nightingale, who organized a hospital service to care for the sick and wounded.

What were the "Corn Laws"?

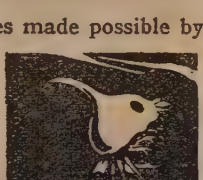
Measures that heavily taxed foreign corn and thus enabled English farmers to sell their grain at high prices, so that bread was very dear. The Corn Laws were repealed in 1846.

What were the Gordon Riots?

A rising instigated by Lord George Gordon in 1780.

When were limited liability companies made possible by law?

In 1855.



What is a zoëa?

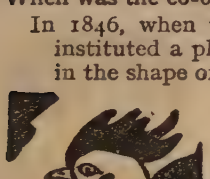
A baby crab in its larval form.

Where are the largest tortoises found?

In the Galapagos Islands.

When was the co-operative movement established?

In 1846, when the Equitable Pioneers of Rochdale instituted a plan for returning profits to customers in the shape of dividends.



Who wrote a play in which the leading character was a cockerel?

Edmond Rostand; the play is called "Chantecler."

When did the Indian Mutiny break out?

In 1857.

When did William Gladstone first enter Parliament?

In 1833.

When were trades unions legalized?

In 1871. Another act of the same nature was passed in 1875.

What was the Peterloo "Massacre"?

A riot in Manchester in 1819.

What is the longest reign in English history?
That of Queen Victoria, sixty-four years.

What was the Gothic Revival?
A movement to revive Gothic traditions in architecture. It produced, for example, the Law Courts, in the Strand.

When was the Bank of England founded?
In 1694.

What mollusc is able to bore into hard rock?
The pholas, or piddock.

When did America declare her independence?
In 1776.

Who wrote the libretto of the opera, "The Barber of Seville"?
Pierre Caron de Beaumarchais.

Who was the "Merry Monarch"?
Charles II of England.

When did Scotland win back the Hebrides from the Danes?
In 1263, as a result of the naval battle of Largs.

Who was the "Old Pretender"?
James Stuart, son of James II.

What is meant by the term "rotten boroughs"?
This name was given to English boroughs that, owing to diminished population, had only a few or even a single voter. Most of them were abolished by the Reform Act of 1832.

What were the "Hundred Days"?
The period elapsing, in the year 1815, between Napoleon's escape from Elba and his abdication and exile to St. Helena.

"But wisdom, awful wisdom! which inspects,
Discerns, compares, weighs, separates, infers,
Seizes the right, and holds it to the last."

YOUNG.

Who was the author of "Salammbo"?

Gustave Flaubert, who took seven years to write it.

Who were the first men to fly?

Wilbur and Orville Wright, in 1903.

Who took out the first patent for a steamboat?

Jonathan Hull, in 1736.

Who introduced the screw propeller for steamships?

E. P. Smith and J. Ericsson independently took out patents for this invention in 1836.

Which was the first steamboat to cross the Atlantic?

The "Savannah"; she sailed from Savannah, Georgia, U.S.A., to Cork in 1818.

Which sea-creature uses its shell to bore into woodwork?

The teredo, or ship-worm.

Which is the largest under-water tunnel in the world?

The Mersey Tunnel at Liverpool, which with its approaches is 2·87 miles long. Under the river, it is circular in section, and the sectional area is about sixteen times that of a London tube railway. It took more than seven years to construct.

What famous author adopted a river term for a pen-name?

Samuel Clemens; his pen-name—Mark Twain—means "exactly two fathoms," and was one of the cries used by the leadsman, or measurer of depth, as a steamboat glided over shallow places

How many legs does a shrimp possess?

Ten, the same number as the lobster and the crayfish. The fresh-water shrimp has more than ten, and is therefore not a true shrimp.

Who made the first submarine?

A Dutchman, Cornelius van Drebbel, who built one for James I of England in 1620.

Who invented the turbine?

Charles Parsons, in 1884. In 1897 he built the first turbine steamer.

Why was the Holy Roman Empire so called?

It was called "holy" because it was supposed to be the champion of the Christian Church; "Roman" because it was thought of as the successor of the Roman empire of ancient times; and "empire" because it was a large group of states, with an emperor set over them.

How many hairs are there on the human head?

A blonde person may have as many as 140,000 hairs; if your hair is brown or black you will have about 109,000; if your hair is red the number will be about 90,000.

How did rubber get its name?

In 1770 Joseph Priestley, an English scientist, used a substance called "caoutchouc" to rub out pencil marks, and from the use to which he put it he gave it the name of rubber.

How long is the Aswan Dam?

This great dam on the River Nile is nearly a mile and a quarter in length; when the sluices are closed the water forms a lake more than 200 miles long.

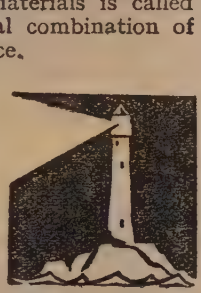
"Half our knowledge we must snatch, not take."

POPE.

How does the food we eat supply us with energy?

The materials from the food we eat go to all the tissues of the body, and in the cells of those tissues the materials are "burned up" to give us the energy we need. We need it for heat, for movement, for growth. This burning up of materials is called oxidation, which is the chemical combination of oxygen with some other substance.

How is the light in a lighthouse made to flash?



The light is shut off by a screen like a giant lampshade with apertures, that works up and down, or, more often, turns round and round, and thus makes a particular series of flashes.

Which famous English philosopher was kidnapped by gipsies?

When he was only three years old, Adam Smith, who is famous as the author of "The Wealth of Nations," was carried off by a roving band of gipsies. He was, however, soon restored to his parents.

What makes us sneeze?

Sneezing is nature's method of expelling dust and germs from the nose.

What is the temperature of the human body?

In the average person it is 98·4° Fahrenheit, though people differ a good deal in this respect.

In what country were smokers at one time put to death?

In the early days of smoking tobacco it was a crime punishable by death in Turkey.

"Wisdom is the only thing which can relieve us from the sway of the passions and the fear of danger, and which can teach us to bear the injuries of fortune itself with moderation, and which shows us all the ways which lead to tranquillity and peace." CICERO.

Who first brought the tobacco plant to Europe?

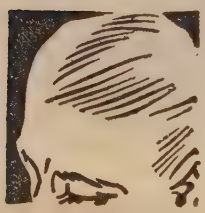
The tobacco plant was brought to Europe in 1558 by a Spanish doctor. In the following year Jean Nicot, the French ambassador to Portugal, sent some seeds of the plant to the queen of France. The plant was named Nicotiana after him.

What famous astronomer was imprisoned for his beliefs?

It was at one time believed that the earth was the centre of the universe, but Copernicus expressed the belief that this was not so, and that the earth travelled round the sun. For agreeing with this view, Galileo was thrown into prison.

Which country produces the best chemical dyes?

The best and by far the most chemical dyes are manufactured in Germany, whose total annual output exceeds 85,000 tons.



What causes the hair to turn white?

There are colour-bodies in the central hollow canal of each hair and in the delicate, scale-like cells in the body of each hair. When the colour-bodies are lacking, the hair turns white.

What causes an eclipse of the moon?

This can take place only when the moon is full, for only then is she on the opposite side of the earth from the sun, and therefore able to fall in the earth's shadow. If the moon's whole disk passes inside the earth's shadow, her light goes out completely and we have a total eclipse.

"That learning that thou gettest by thy own observation and experience, is far beyond that which thou gettest by precept." THOMAS À. KEMPIS.

Which country supplies the greatest quantity of timber?

The United States of America, from whence comes about two-fifths of the world's production. The next largest producer is Russia. Only about 4 per cent. comes from Canada.

What is soft wood?

When we speak of soft wood we do not mean that the wood is really soft. The term is applied by people in the timber business to wood obtained from trees bearing cones and needles. Hard woods are obtained from trees with broad leaves.

Which is the most durable wood?

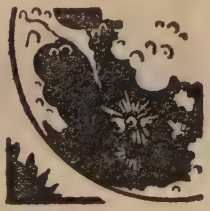
Teak. It is the most lasting wood of which we know, and for that reason it is used for building ships. Termites, or "white ants," never attack teak, because it contains an oil that is distasteful to them.

Have we ever seen the back of the moon?

No; because in the 29½ days it takes her to travel round the earth, she turns exactly once and so the same face is always presented to us.

How large is the moon?

Although the moon appears to us to be as large as the sun, she is actually the smallest of the celestial bodies visible to the naked eye. From pole to pole the moon measures 2,163 miles.



Which is the most valuable dye-producing plant?

The indigo plant, from whose leafy shoots the dye-producing juice is extracted. The people of India have known the properties of indigo for about 5,000 years.

How are our bones held together?

In order to keep the ends of our bones in place, so that they will not be dislocated at every move, the joints are well wrapped in strong bands of connective tissue—the ligaments. These hold the bones firmly together, and yet allow plenty of movement.

How is the growth of our bones regulated?

There are several special glands that perform this task. They send their products out into the blood. These products, called hormones, excite the bone cells to growth.

Why do some people grow to be giants?

There is a gland at the base of the brain called the pituitary gland, which sometimes becomes enlarged through disease and manufactures too much hormone. This has the effect of stimulating growth, and the person thus affected grows to an abnormal size, with big head, hands and feet.

What well-known author was an oyster pirate?

Jack London, the popular American writer, earned quite a lot of money in his young days by robbing other people's oyster-beds.

How many teeth should we have?

The complete number of teeth in the adult is thirty-two. They consist of four incisors, two canines, four bicuspids, or premolars, and six molars in each jaw.

What fish builds its nest of bubbles?

The Chinese paradise fish makes his nest entirely of bubbles. He gulps a great mouthful of air and then blows it out again surrounded by a film of mucus. The bubbles cling together on the top of the water, and the eggs are placed underneath them.

"Few and precious are the words which the lips of Wisdom utter.
To what shall their rarity be likened?
What price shall count their worth?"

TUPPER.

How many bones do we possess?

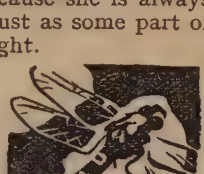
There are normally two hundred and six bones, both big and little, in the human body.

How does the moon get her light?

She borrows it from the sun. The reason why we see her after the sun has set is because she is always bathed in light from the sun, just as some part of our earth is always bathed in light.

What is a "devil's darning needle"?

This is a name given to the dragon-fly. Of some two thousand kinds that exist throughout the world, about forty are found in Britain.



Who discovered how blood travels round the body?

It was William Harvey who discovered that the blood in our body is constantly circulating. He first expounded this belief in 1616.

When was granite first used for making roads?

The method was introduced by John McAdam in 1816, the granite being broken into sharp angular pieces of a size that would pass through a ring two-and-a-half inches in diameter.

What fruit juice was at one time issued to British sailors?

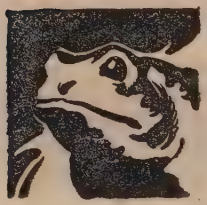
Lemon juice. It was served out to sailors in the navy and the mercantile marine as a precaution against scurvy.

How old is the art of weaving tapestry?

This art goes back more than 3,500 years, for pieces of tapestry woven in Egypt at that time are still in existence.

When were the first reservoirs in London built?

In 1609. The memory of the early London conduits is kept green by the names of several streets, such as Conduit Street, off Bond Street, and Lamb's Conduit Street, near High Holborn.



What animal eats its own skin?

Like other amphibians, the toad sheds its outer dead skin periodically. He rubs away the loose pieces with his sturdy front feet, and stuffs them into his mouth and swallows them.

What animal is known as a "smith"?

The South African tree-frog, because when it croaks it makes a noise like the banging of a hammer on copper plate.

What bishop is said to have been eaten by rats?

Bishop Hatto II, in the Mouse Tower at Bingen, Germany, on the River Rhine. He is stated to have mocked and trapped the starving peasants in a barn, which he set on fire. The rats in the barn, driven out by the fire, pursued the bishop to the tower and ate him up.

Which queen of England refused to travel in her coach?

Queen Elizabeth would not ride through the streets in her new coach because, she said, she would be bruised from head to foot by its jolting. She continued to travel on horseback.

When was the Panama Canal built?

Work on it began in 1904, and it took ten years to complete. It was built at a cost of about £75,000,000, and more than five thousand vessels pass through it every year.

THE PANAMA CANAL

"We ought to know what knowledge we possess, and be able to make it serve us in need." LEIBNITZ.

How is water purified?

One of the chief ways of purifying water is by filtering it through a layer of sand. The Chelsea Water Company first used this method, in 1829. In purifying water by means of chemicals, chlorine plays a prominent part.

From what is writing ink made?

The basis of writing ink is tannic acid, which is obtained from a certain "gall," or malformation, that appears on oak trees. Such galls are called Aleppo galls because they grow on oak trees from the region around Aleppo, in Syria. Gum arabic and gum senegal are used to enable the ink to flow freely.

How far away is the moon?

The distance varies, but on average she is about 240,000 miles away from the earth. The sun is about 400 times farther away.

Why can a dog hear better than a man?

One of the chief reasons is because he is able to move his ears, and is thus better able to receive the sound-waves—the vibrations in the air. Dogs, horses and other animals can locate sounds better than we can because they know exactly in what direction they must move their ears in order to hear them best.

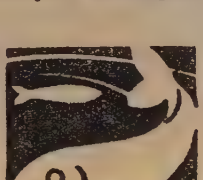
How many calories do we need a day?

The amount varies according to age and other circumstances. A boy of twelve or thirteen requires from 2,300 to 2,700. Girls of the same age should have about 500 less.

What is "Spanish grass"?

This is a name often given to esparto grass by the people of Spain, in which country it is largely grown.

What enables a fish to rise and descend in water?



Its air-bladder. When a fish rises, the water-pressure upon it becomes less, and the air-bladder automatically adjusts the internal pressure to agree with that outside. When the fish dives the water-pressure becomes greater, and compensation in the reverse direction becomes necessary.

What is cellophane?

The thin transparent wrappings around cartons of cigarettes, packages of food and other articles are made of cellophane, which is obtained from cellulose, mostly the waste material.

What is the Heimwehr?

This is a middle-class movement in Austria, rather like Fascism in Italy. It was started in 1928, and is opposed to the Nazis.

What is linseed-oil?

This oil is extracted from the "linum," or flax plant, from which we also make linen. That is why it is named "linseed" oil. Its most important use is as an ingredient in the making of paint.

How do we get quinine?

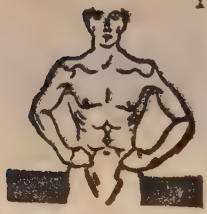
This drug is obtained from the bark of the cinchona tree. Originally known as Peruvian bark, it was called after the Countess del Chinchon, who in 1638 was cured of a dangerous illness by partaking of a bitter drink made from the bark of a tree obtained from the Peruvian Indians.

How much water do we use?

It is estimated that in Great Britain the quantity of water used daily averages from twenty to thirty-five gallons per person.

When does the "harvest moon" occur?

Within two weeks—before or after—of September 21, the date when days and nights are of equal length. The moon that comes the next month is called the "hunter's moon."



How many times do we breathe a minute?

Men in normal health breathe about sixteen times a minute; boys and girls, from twenty to thirty; tiny babies about forty times.

What is digitalis?

A drug that is obtained from the juice of the foxglove plant. It is used as a remedy for a particular kind of heart disease, in which the "regulator" of the heart's beat does not do its work efficiently.

Which was the most famous of the Roman roads?

The Appian Way, which was begun more than three hundred years before the birth of Christ. It reached from Rome to Brundisium (Brindisi), a distance of three hundred and fifty miles, and was fourteen feet wide.

Does the moon shine in the day-time?

The moon shines in the day-time just as she shines at night, though not with the same splendour, for her glowing friend the sun quite dims her pallid rays. When the sky is very blue you may just see her.

What is "urucu"?

A dye used by American Indians to stain their faces a brilliant red. It is obtained from the red, fleshy covering of the seeds of the annatto tree.

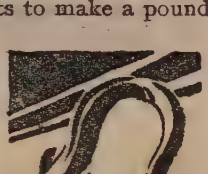
"In seeking wisdom thou art wise; in imagining that thou hast attained it, thou art a fool."

RABBI BEN AZAI.

What insect provides us with a dye?

The female cochineal insects feed on a certain cactus called nopal, and it is from the dried bodies of these insects that we get cochineal, a bright and lasting red dye. It takes 70,000 insects to make a pound of it.

What fresh-water fish swim out to sea to die?



In the autumn thousands of eels leave the rivers of Europe and swim far out into the deep waters of the Sargasso Sea. Here they deposit their eggs, and then die.

Who were the people called lake-dwellers?

In 1853, when the waters in some of Switzerland's many lakes sank far lower than usual, there were found the remains of thousands of piles that had once supported wooden platforms on which a people who lived in the New Stone Age and the Bronze Age had built their homes.

From what is chewing-gum made?

In Central America there grows a tree called sapodilla, which supplies a milky juice called chicle. This juice is really chewing-gum in its raw state.

How did France get its name?

The country we know as France was at one time called Gaul. It was overrun and conquered by the Franks, and was renamed after its conquerors.

In which country was paper first made?

The Chinese were the earliest people to make paper.

Which was the most famous lighthouse in the world?

The lighthouse that was erected on the island of Pharos, near Alexandria, in Egypt, about 300 B.C.

"A man, on the whole, is a better preceptor than a book. But what scholar does not allow that the dullest book can suggest to him a new and a sound idea?"

BULWER-LYTTON.

What is cork?

Cork is a peculiar kind of wood. It is the outer bark of a species of oak tree and is made up of a vast number of tiny cells, all clinging together and all filled with air.

Why does a barber's pole have red and white bands round it?

This is a survival of the days when the same man was often both a barber and a surgeon. The red and white bands represent the bandages with which he bound up his patients' limbs.

Are there mountains on the moon?

Yes, and some of them reach a height of 36,000 feet, much higher than any peaks on earth.

Are all heavenly bodies spherical?

All those known to astronomers, except comets and nebulae, are spherical or, roughly, ball-shaped.

How long does it take the tide to rise and fall?

About six and a quarter hours; thus there are two high and two low tides about every twenty-five hours.

Has the sun any effect on the tides?

Yes; when the sun and moon are on the same side of the earth, or are on opposite sides, and can pull together, the tides are unusually high. At such times we have spring tides. Low, or neap tides occur when the sun and moon are pulling at right angles to each other.

When did women receive the right to vote in Spain?

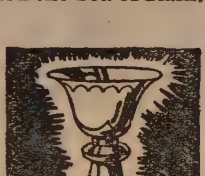
In 1931, when the country passed from a monarchy to a republic.

"Who loves not knowledge? Who shall rail
Against her beauty?" TENNYSON.

Are there seas and lakes on the moon?

There is no water on the moon. The so-called lakes and seas are merely dark patches that go to form the face of the Man in the Moon. For example, the one that forms his right eye is called the Sea of Rain.

What was the Holy Grail?



The cup from which, at the Last Supper, Christ and the apostles drank the wine of Communion.

What is "black" bread?

This name is given to bread made from rye, which is still eaten in Russia, Germany and other northern countries of Europe.

Which is the largest of the planets?

Jupiter, which has a diameter of 88,000 miles. If all the other planets were lumped into one, Jupiter's mass would still be two and a half times greater.

When did Spain become a republic?

In April, 1931. The Spanish electorate declared in favour of a republic, and on the 14th of the month the deposed king sought refuge in France.

Who ruled Spain as a dictator in the twentieth century?

With the approval of King Alphonso, General Primo de Rivera became dictator of Spain in 1923. The dictatorship lasted for more than six years.

When was tea worth more than its weight in gold?

Tea was introduced into Europe about the middle of the seventeenth century. At first the herb was so expensive that a pound cost anything from fifty to a hundred pounds in the money of to-day.

What is the Escorial?

The palace of the former Spanish sovereigns. When Napoleon visited his brother, King Joseph, there, he said, "Brother, you are better lodged than I."

"To be instructed in the arts softens the manners and makes men gentle." OVID.

From which country did our tea first come?

For a long time all our tea came from China, where it had been grown for thousands of years. Much now comes from India, where it has been grown for about a century only.

Why do birds sing?

Birds do not sing only because they are happy or to cheer their mates. Their song is often a song of defiance—a challenge to other birds.

In what circumstances may the potato be poisonous?

Its tubers, if allowed to lie on top of the ground, become green and develop a poison. The green berries produced by its flowers also are poisonous.

What are variable stars?

Stars that vary from time to time in brilliance. The change is thought to be due to a pulsation, or alteration in size, of the star.

Which part of the potato is it that we eat?

The swollen ends of certain leafless underground shoots, known as tubers.

What proportion of the world's population lives mainly on rice?

About one-third, or some six hundred million people.

Who founded the Danish city of Copenhagen?

Absalon, archbishop of Lund, in the reign of Valdemar the Great (1157–1182).

What is the traditional origin of the Danish flag?

In a battle against the Estonians, in the reign of Valdemar the Victorious (1202–1241), the Danes had lost their banner and were near defeat; a red banner bearing a white cross fell from the sky, and under this—the "Dannebrogi"—the Danes fought on to victory.

"Wisdom deprives even poverty of half its power."
H. W. SHAW.

Which is the first Danish record of Denmark's history?

A memorial stone of King Gorm at Jallinge. It bears an inscription in runes stating that it was raised in memory of Queen Thyra.

Which common vegetable saved the lives of millions of people in Europe?

The potato; owing to the damage to crops and to the other ravages of the Thirty Years' War, the normal food supply of the population was destroyed and the potato came to the rescue.

What is the composition of the potato?

Though three parts water, it contains about 15 per cent. starch and 2 per cent. protein besides other valuable food products.

What is the longer, an earthly day or a lunar day?

A lunar day is almost fifteen times as long as our day, and lasts about 354 hours.

Who introduced the potato into Europe?

Its early history is confused with that of the sweet potato, but there is a story that Captain John Hawkins took the white potato to England about 1563. Raleigh is said to have first planted it in Ireland.

At what age do tea plants begin to yield?

The leaves may be picked when the plant is three years old, but the best tea is produced by plants that are from ten to fifteen years old.

Which is the swiftest moving planet?

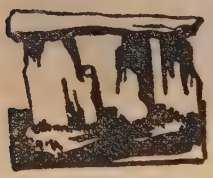
Mercury dashes along at an average speed of twenty-nine miles a second, a greater rate than that attained by any other planet.

Which are the twin planets?

This description is often applied to the earth and Venus from their diameter being roughly about the same. Venus measures 7,600 miles across, only about 300 miles less than the earth.

How much beet sugar is produced yearly?

More than eight million tons, which is approximately one-third of the total sugar production.



What are dolmens?

Crude chambers made of stones set edgewise, in which some early peoples buried their dead. A huge stone slab was used as the tomb cover. The early Teutons built dolmens with oblong entrances, which were known as passage graves, and sometimes held from fifty to a hundred bodies.

What planet passes through the same phases as the moon?

In 1610 Galileo discovered that the planet Venus appears, like the moon, as a crescent, which gradually changes to a half-moon and finally becomes full.

What is the length of a day on Mars?

The Martian day is forty-one minutes longer than our own day. It takes this planet 687 of our days to make his circuit round the sun.

What ruler was called "the farmer king"?

Diniz, who succeeded Alphonso III as king of Portugal in 1279, was so called, from teaching his subjects better methods of cultivating the land.

Which countries produce the most wheat?

The world's annual crop of wheat is about 135 million tons, of which nearly a fifth is grown in Russia, and about the same quantity in the United States.

Are there people on Mars?

This is a matter about which there is diversity of views, from flat denial to positive assertion that there are inhabitants on this planet. Some astronomers believe the markings on Mars that can be seen through a powerful telescope are canals, but others believe them to be strips of vegetation.

Which is the nearest star to the earth?

Alpha, in the constellation called the "Centaur"; it is 25,000,000,000,000 miles away.

How long does it take for the light from the nearest star to reach the earth?

It takes over four years.

What city is known as "the Venice of the North"?

The Belgian city of Bruges, from the number of her canals.

Which European country was formerly called the Batavian Republic?

This is the name by which Holland was known after her conquest by the French in 1794–5.

Who first discovered the lines in the solar spectrum?

Wollaston, in 1802. Fraunhofer in 1815 discovered that the spectrum of different kinds of light showed differing arrangements of lines.

Which Danish sovereign united Norway, Sweden and Denmark?

Margaret, who brought about the Union of Kalmar (1397).

When did Sweden break away from Norway and Denmark?

In 1448, on the death of Christopher III, when Norway elected a King of her own.

"Seek to delight, that they may mend mankind,
And, while they captivate, inform the mind."
COWPER.

Which event in Swedish history is known as "Stockholm's bath of blood"?

The murder in cold blood of more than eighty of Sweden's notables by order of Archbishop Trolle at the coronation of Christian II.

When did Iceland obtain the right to rule herself?

In 1918. She is still under Danish suzerainty, however.

For how many years will orange trees bear fruit?

Normally from fifty to eighty years; a single tree will supply from four hundred to a thousand oranges.

Where was the seedless orange first grown?

In Bahia, Brazil, about the beginning of the sixteenth century. Instead of seeds, it had a curious growth at one end, just under the skin, and was a pure freak. The seedless orange is now highly favoured.

What is the Oslo Convention?

An economic pact between Denmark, Norway, Sweden, Belgium and Luxemburg, signed in 1931.

Which was first to be grown in Europe, the orange or the lemon?

Lemons were cultivated in Europe long before oranges. They first came from India, but in 1492 they were so common around the Mediterranean and in the Azores that there had already grown up a large trade in their importation to England.

How does the star Orion compare in size with the sun?

Its bulk is thought to be 25,000,000 times greater than that of the sun.

"It is the glorious prerogative of the empire of knowledge, that what it gains it never loses."

DANIEL WEBSTER.

What was Anaxagoras' theory of the stars?

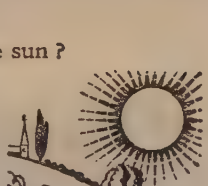
This Greek philosopher, who lived in the fifth century B.C., said that the stars were red hot stones cast up long ago from the earth, and that they had taken fire by reason of their very swift rotation.

In which European country were women first granted the right to vote?

Sweden; it was granted in 1907.

Which is the larger, the earth or the sun?

The sun appears to be much smaller than the earth, but that is because it is so far away. The diameter of the sun is about 864,000 miles, while that of the earth is only 7,927 miles; its weight is about 330,000 times that of the earth.



Which planet was at first known as Herschel's planet?

Sir William Herschel, in 1781, discovered the planet Uranus, and for a time it bore the name of this famous astronomer.

What are kitchen-middens?

Prehistoric rubbish heaps. In them have been found tools of bone and horn, crude stone axes, coarse pottery and other relics of early man.

How are stars classified?

According to magnitude, from the first to the twenty-fifth. The higher the number denoting the magnitude, the less bright is the star.

What European king died as the result of a mountaineering accident?

Albert, king of the Belgians, who met his death in this way in February, 1934.

Which vitamin is found in citrus fruits?

Vitamin C; the lemon is specially rich in vitamins.

How many of the stars are visible to the unaided eye?

Only some six thousand or so, and only about half of these can be counted without a telescope.

Why do we see the stars only at night?

Because they are made invisible by the brighter light of the sun, spread out by the earth's atmosphere.

Why do we blink?

Blinking is a form of "reflex action." If dust particles are blown near your face, you instinctively blink, because an S.O.S. message has been carried by the nerve fibres to the nerve centres, and from there to the muscles of the eye to protect it by closing the lid.

At what rate does the sun move through space?

The rate at which the sun drifts through space is twelve miles a second, or more than a million miles a day.

How much of the sun's heat do we get?

The sun is constantly pouring forth heat at a rate that our imagination finds it impossible to grasp. It lavishes its warmth through all space, and only about $\frac{1}{2,200,000,000}$ is received by our earth.

What was Pandora's box?

Before Pandora, "the all-gifted one," left the company of the Immortals, a golden box was put into her hands. She was forbidden to open it, but her curiosity was aroused, and from the box a thousand evil spirits were let loose. Only Hope remained.

PANDORA'S BOX

What causes the sun's corona?

The pearly ring or crown of light round the sun is thought by astronomers to be due, in part at least, to the reflection from a great cloud of "dust" that floats around it.

What king had three hundred golden bees buried in his tomb?

The Frankish king Childeric, who died fifteen centuries ago. When the French emperor Napoleon was crowned, he chose Childeric's golden bee as his symbol of power.

What fruit was first introduced into England in Charles II's reign?

The pineapple. It was then a rare and costly fruit, and was called piña, the name by which it is still known to the Spaniards.

Are pineapple leaves of any value?

Yes; the people of the Philippine Islands grow the fruit chiefly for its leaves, from which a fine white fibre is obtained for weaving a smooth durable fabric.

How was the Zuider Zee formed?

The Zuider Zee, a large shallow arm of the sea, was formed by a great flood from the North Sea, which submerged thirty villages and drowned thousands of people. Most of the land has been reclaimed, and what remains is known as Yssel Lake.

What is Holland's main feature of national defence?

Her ability to flood her fields and towns to keep out a foe. If hard pressed by an enemy, she could let in water from the sea and flood a barrier region from Yssel Lake to the River Rhine, a region about fifty miles long by seven or eight wide.

Who first observed the transit of Venus?

William Crabtree, a merchant of Broughton, near Manchester, on November 24, 1639. He trained a telescope on the sun and watched the planet's shadow pass across the sun's image reflected on a screen.

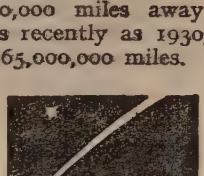
What plant helps to provide us with more than 200 useful products?

The pea-nut, or "monkey-nut," plant; among other things, it helps in supplying a kind of butter, a coffee substitute, oil and lard compounds, sauces, pomades, face-creams, wood-stains, linoleum, printer's ink, soap, and axle-grease.

Which of the planets is nearest to the sun?

Mercury, which is about 36,000,000 miles away. Pluto, which was discovered as recently as 1930, is the farthest away, about 3,665,000,000 miles.

What are shooting stars?



The little flaming specks that we sometimes see darting through the heavens, and which we call shooting stars, are tiny fragments of a comet, or loose "dust" from the vast depths of space, which, coming within reach of the earth's gravitation, are swiftly drawn into our atmosphere.

When was the first coffee-house in England opened?

Coffee drinking in England dates from the seventeenth century. In 1652 the first coffee-house was opened, and they soon became the meeting-places of poets, politicians and other prominent people.

Who is called the founder of the new Sweden?

Gustavus Vasa, who freed the country from the Danes in 1523.

"The heavens and the earth, the woods and the wayside, teem with instruction and knowledge to the curious and thoughtful." HOSEA BALLOU.

Which period of Swedish history is known both as the Age of Anarchy and the Age of Freedom?

The period from 1720 to 1772. There were two parties, the "Hats" and the "Caps," in constant strife, and the king lost most of his power to the nobles.

Who discovered the art of pottery?

The credit is given to a Chinese emperor named Hwang Tsi, who is said to have discovered the art about 2700 B.C.

Which of the planets is girdled by rings?

Galileo discovered that Saturn was girdled by an enormous belt, which consists of three broad, flat rings, one within another, floating in space and not attached to the planet at all.

When did Norway declare her independence?

On May 17, 1814, a great national assembly met at Eidsvold, and framed a new constitution, the crown being offered to a Danish prince, Christian Frederick. Sweden opposed Norway's independence and the two countries agreed to be united under one ruler, neither being subject to the other. The day is still celebrated as a national holiday.

What was the Carbonari?

An Italian political secret society, which, among other activities, engineered a rebellion in Naples in 1820. The name means "charcoal burners."

Who was the first king of Italy?

Victor Emmanuel II, who was proclaimed king in February 1861, about a year after the formation of the first parliament of united Italy.

"The progress of knowledge is the forerunner of liberality and enlightened toleration."

LORD BROUGHAM.

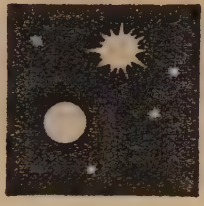
Of what is porcelain made?

Porcelain was invented by the Chinese about two thousand years ago, and it was not until 1709 that its secret was discovered by Europeans. It is made from two clays—kaolin, or china-clay, formed from decomposed granite, and petuntse, or china-stone, which is decomposed feldspar.

What is the size of a comet?

Astronomers affirm that the tail of a comet may be hundreds of millions of miles long, and the head many times larger than the earth.

How can a star be distinguished from a planet?



In most cases the easiest test is to note if the heavenly body twinkles or not. Planets give out a steady light and do not twinkle. Stars always twinkle. Mercury is an exceptional planet, in that it twinkles.

How much do meteorites weigh?

Meteorites vary greatly both in weight and size. One was found in Greenland, in 1894, measuring 5 by 7 by 11 feet and weighing 36½ tons.

What is the "zodiacal light"?

The zodiacal light may be observed in the tropics. It is an exquisite ribbon-like belt of pearly radiance that arches upwards from the sun and may be seen against a clear, dark, moonless sky before sunrise or after sunset. It is formed by particles of dust from meteors floating in the sunbeams.

What is bagasse?

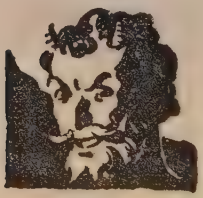
The sweet juice of sugar-cane is obtained by crushing the cane with powerful machines. The pulp which results is called bagasse, and it is used as fuel for the boilers of the sugar-mill.

"To be wiser than other men is to be honester than they; and strength of mind is only courage to see and speak the truth." HAZLITT.

What were Scylla and Charybdis?

Again and again, ships disappeared in the straits between Italy and Sicily, sucked down in a powerful whirlpool, or dashed upon mist-hidden rocks. The sailors believed that two hungry monsters lived in these evil waters—one called Scylla and the other Charybdis.

What was a satyr?



The satyr of classical mythology was a forest god or demon. He had the head and trunk of a man and the legs and hind part of a goat. Horns curved backwards from his head.

What is a rune?

A letter or character of the earliest alphabet used by the Gothic tribes of Northern Europe. Runic letters were probably derived from the Greek and Roman alphabets.

At what rate does a comet travel?

A comet may attain the great speed of three hundred miles a second, or eighteen thousand miles a minute.

What was the former name of Oslo, the capital of Norway?

Christiania; the city was founded in 1048.

Who were the Ynglings?

The Ynglings were the strongest royal house in ancient times of the land we know as Sweden. They ruled at Uppsala, the capital city sacred to the worship of the gods, from whom they believed they were descended.

How much fruit does a walnut tree yield?

It is not unusual for a mature tree to produce from 200 to 350 lb. of nuts a year.

When was serfdom done away with in Sweden?

In the thirteenth century more than half the people were freemen, and serfdom was entirely abolished in 1335.

What was the Mafia?

An Italian secret society founded to punish by assassination greedy oppressors, but which later killed and robbed to serve its own ends and terrorized Italian political society.

How does the scorpion kill its prey?

Weak insects are crushed to death between its great pincer claws, but strong insects are killed by a sharp thrust from its venomous sting. The poison from a large scorpion will kill a rat outright and can cause serious illness to a human being.

Does the nightingale sing only at night?

No, he sings in the daytime as well, but his voice is not always recognized amid the chirping, trilling and warbling that fill the air during early summer days.

Who was the famous dramatist who wrote eighteen hundred plays?

The Spaniard, Lope de Vega (1562–1635). He was a most prolific writer. He once made a wager that he could write a whole act for a comedy before breakfast—he won the wager.

Which famous author served for five years as the slave of a pirate chief?

Miguel Cervantes (1547–1616). He was captured by pirates when returning home after five years of service as a soldier. It was five years before his ransom was collected.

How can we tell the difference between Jenny Wren and Johnny Wren?

It is very difficult to do so; the cock bird, however, is a little brighter in colour and is the better singer of the two.

How may one know a rook from a crow?

A rook has a patch of whitish, bare skin at the base of his bill—a crow has not.

Which bird builds several trial nests before completing one and settling down?

The wren. These unfinished nests are often called "cocks' nests," and sometimes half a dozen of them may be found near the place where Jenny Wren is sitting in her well-built house.

Could we live without salt?

No, for our bodies are like chemical factories in which salt is necessary to carry on certain important processes. Salt is everywhere in our bodies—in our bones and flesh, and in our blood and tears.

Why was the picture of a fish used as a symbol for Jesus Christ?

When put together, the initial letters in the Greek words meaning "Jesus Christ, Son of God, Saviour," spell "Icthus," the Greek word for "fish."

How much radium is used in the making of a luminous dial for a watch?

About ten pennyworth—about one ten-millionth of an ounce, for, mixed with zinc sulphide it goes a very long way indeed

What does U.S.S.R. stand for?

It is the official name of the government of Russia—the "Union of Socialist Soviet Republics."

"If thou kiss Wisdom's cheek and make her thine, she will breathe into thy lips divinity, and thou, like Phœbus, shalt speak oracle." DECKER.

Have rooks a language of their own?

They certainly appear to have. People who have carefully studied their ways claim to be able to distinguish between thirty or forty different rook "words" or sounds.

Is a spider an insect?

No. An insect has six legs—a spider has eight.

At what period of the year may the skylark be heard singing?

He sings all the year round, and often in a snowstorm, but he is always heard at his best at nesting-time in the bright and sunny days from April to June.

What does the word "soviet" mean?

It means council or assembly.

Are there descendants of the Phœnicians living to-day?

Yes. The natives of Malta are partly descended from them and the Maltese language shows evidence of its Phœnician origin.

Which famous astronomer received a present of an island from a king?

Tycho Brahe (1546–1601). So that Brahe could pursue his studies, the king of Denmark granted him an island, a pension, and a sum of money for a house and an observatory.

How did the fly get into the amber?

Thousands and thousands of years ago many insects, resembling those of to-day, which had just begun to make their appearance, were caught in the resin which oozed from the trees. Some of the resin hardened into what is called amber, so the entrapped insects, now fossilized, are perfectly preserved for us to-day.

Is the world's supply of iron ever likely to fail?

Not for a very long time. The Earth seems to be mainly composed of this metal.

What is the hardest known substance in the world?

The diamond.

What is the only thing that will cut a diamond?

Another diamond.

What is stainless steel?

It is an alloy of chromium and iron. Chromium is obtained from a mineral ore called chromite.

Which are the two greatest languages in the world today?

They are really families or groups of languages—Chinese, spoken by more than 400 million people; and Indo-European or Aryan, used or understood by over 700 million people. English is a dialect of the latter language family.

How many people speak or understand the English language?

About 220 millions.

Do you know that at one time horses had five toes?

The earliest known horses, living in Eocene times, were about the size of a fox or a small pig and had five toes. Gradually, however, in the course of countless years of evolution, they lost certain toes, so that the hoof of the modern horse is nothing but the end of one toe.

What was the first metal used by man?

Copper. Later, when he discovered tin, he made an alloy of the two metals—bronze. Early men in history made so many things of this alloy that their era is called the Bronze Age.

"Knowledge is like money—the more a man gets, the more he craves." H. W. SHAW.

Who was it who said: "Like a fish out of water, a nation is in danger because of its armoured strength"?

Lao-tse, a famous sage who lived in China many long years before the League of Nations or World Disarmament Conferences were thought of. He was born about 600 years before Christ.

What does the word "Buddha" mean?

It means "the Enlightened One," and it is a title of reverence, like "Saint." In Buddhist lands to-day people speak of many Buddhas, for they believe that many times has the spirit of enlightenment dwelt in a human body. When, however, anyone speaks of the Buddha, the greatest of them all is referred to—Siddhartha Gautama (c. 568–488 B.C.), the founder of the mighty Buddhist religion.

What was the largest land animal that ever lived?

The Diplodocus, a giant reptile that roamed the Earth long before the coming of man. He measured about sixty feet from his nose to the tip of his tail and weighed as much as forty tons. Despite his fearsome aspect, however, it is probable that he was an inoffensive creature, and he lived chiefly on water plants.

Which is the largest diamond in the world?

The Cullinan diamond. It weighed 1¾ lb. in the rough and was discovered casually in 1905 by a foreman of the Premier Mine, Transvaal.

Where does most of our platinum supply come from?

Platinum is very rare, for although it can be found in many places, it occurs only in small quantities. Nearly all the platinum we use comes from the Ural Mountains, Russia.

Which is the smallest British bird?

The goldcrest, or golden-crested wren.

In what way does the hen blackbird differ from the cock blackbird?

She has a dull brown coat, and her bill is not so bright as that of her mate.

Who invented the miner's safety-lamp?

Sir Humphry Davy (1778–1829).

Which are the four precious stones?

The diamond, the ruby, the emerald and the sapphire.

What happens when we eat too much salt?

Almost at once our bodies cry out for water, for the blood and all the fluids in which our tissues are bathed get too salt for comfort—we feel thirsty, and drink enough water to make our blood less briny. If we could not do so, and had to keep on taking salt, we should die.

What colour would the offspring of a pure white guinea-pig and a pure black guinea-pig be?

Not grey, as one might suppose, but all black. All their offspring, however, would not be black—one-fourth of them would be white. This important law of heredity was discovered by Johann Mendel (1822–1884), the son of a poor Austrian farmer.

When did men discover the uses of petroleum?

Although the Chinese were digging wells for gas and oil perhaps as long ago as fifteen hundred years, in the Western World no use was made of petroleum until about seventy-five years ago.

How much salt is there in the ocean?

There is enough salt to cover Great Britain and Ireland with a layer nearly forty miles thick.

HOW MUCH SALT IN THE SEA?

Who was the professional pianist who became a Prime Minister?

Ignace Jan Paderewski. In 1919 he forsook his brilliant musical career and accepted the position of Prime Minister of the Polish Republic.

Which flower is a great source of wealth to Bulgaria?

The rose. In the valleys that slope down to the Danube millions of roses are gathered each year and taken to perfume factories where the precious attar of roses is extracted. The manufacture of this rare perfume is a national industry.

What do centipedes feed on?

Centipedes, unlike millipedes, are flesh-eating animals. They hunt down and kill slugs and worms and crawling things of all kinds. Even winged insects that settle on the ground make welcome additions to their menu.

To which class of the animal kingdom do the centipedes and millipedes belong?

They form a class of themselves, and are known as "myriopods," which comes from two Greek words meaning "ten thousand feet."

Did dragons ever exist on the earth?

In the Cretaceous period, long before man appeared, there were creatures which may well be likened to the dragons of fairy tales. They were flying lizards—pterodactyls—with beak-like jaws armed with sharp teeth, and whose wing-spread sometimes measured as much as twenty feet!

Who is the patron saint of both Poland and Lithuania?

St. Casimir. He was a prince of the royal house of Poland—a grandson of King Jagiello. In his brief twenty-six years of life (1458–1484) he became greatly renowned for his holiness.

"Great is wisdom; infinite is the value of wisdom. It cannot be exaggerated; it is the highest achievement of man."
CARLYLE.

Why does Mrs. Centipede hide her eggs?

Because if Mr. Centipede should chance to see an egg lying on the ground he is quite likely to devour it.

Why does salt keep our fish and meat from spoiling?

Because it prevents the growth of the tiny plants and animals that make things go bad.

What two great dangers always threaten the lives of the people of Sicily?

Earthquakes and volcanoes.

Do you know that there is a state in Europe only one-third as large as Hyde Park, London?

The state of the Vatican City in the heart of Rome is one-sixth of a square mile in area, has about 1,000 citizens and is governed by the Pope.

What is "fire damp"?

Many mining disasters have been caused through fire damp. It is a natural gas that percolates into the air from pockets in the coal where it has been imprisoned perhaps for millions of years. When diluted with air, and if a naked light is brought near, it will explode with great violence.

Where does the kingfisher build its nest?

Usually in a hole scooped out at the end of a tunnel in a river-bank. The tunnel is sometimes eight feet in length.

Who was the great emperor who worked in an English dockyard?

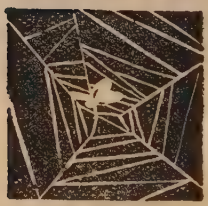
Peter the Great (1689–1725) of Russia. Discovering that the English could make better ships than anyone else, he worked for two months in Deptford dockyard and used the knowledge he so acquired to build up a strong navy for his country.

Are there fishes that can breathe both air and water?

Yes. They are the lung-fishes, or "double-breathers," of Australia, Africa and South America. In times of drought they can survive in mud-holes and similar places.

How does salt help to freeze ice-cream?

Salt water freezes at a much lower temperature than pure water. Therefore, when a mixture of ice and salt is packed round an ice-cream container the salt dissolves the ice but at the same time sends the temperature down far below freezing-point.



How are insects captured in a spider's web?

By means of a sticky secretion which covers the spiral threads with tiny droplets.

Why is the Dead Sea so called?

Because it is so heavy with salt that fish cannot live in its waters or plants on its banks. It is six times as salt as the ocean.

What is birds'-nest soup?

It is a concoction, greatly esteemed by the Chinese, prepared from the nests of a species of swift inhabiting the East Indies, Madagascar and Australia. These birds make their nests in caverns —chiefly from their own gummy saliva, with which they cement them to the surface of the rock.

Where are the world's largest salt mines?

At Wieliczka, near Cracow, in Poland. Here there is a beautiful underground city, with railway stations and houses and chapels hung with gleaming crystal chandeliers—all made out of salt. The mine galleries are 60 miles long, and in this glistening white city there is a population of more than 1,000.

Why is the green woodpecker sometimes called the "yaffle"?

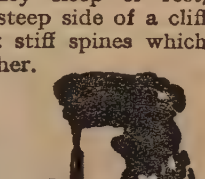
Because of his loud, ringing call, which sounds somewhat as if he were enjoying a good laugh. He is also called the "rain bird," as he is said to laugh most heartily just before rain.

Why are swifts never to be seen perching on twigs or telegraph wires?

Because swifts cannot perch; their feet are very weak and all their four toes are turned forward in the same direction. Therefore, when they sleep or rest, they cling to a wall or to the steep side of a cliff with their claws and the short stiff spines which adorn the tip of each tail feather.

When is an oil-well described as a "gusher"?

When the oil rushes up with such force, owing to the pressure of the gas accompanying it, that it blows off the cap of the well and shoots into the air like a great fountain.



Why do small birds often mob a cuckoo when he comes into the open?

Probably because he looks so much like a hawk that they imagine he has evil designs on their nestlings.

Has oil been found in Great Britain?

Yes, though it has not been worked in profitable quantities. In the early part of 1934, however, it was thought that considerable deposits had been located at Hardstoft, in Derbyshire.

How do we know that the Antarctic was not always a land of snow and ice?

Because some of the rocks in those regions contain fossil remains of plant and animal life that could have existed only under tropical or sub-tropical conditions.

Who classified the plants?

Carl von Linné, the Swedish naturalist. He is better known, however, as Linnaeus, the Latin form of his name, for his books, like other scientific works in those days, were written in Latin.

What has been aptly described as "bottled sunshine"?

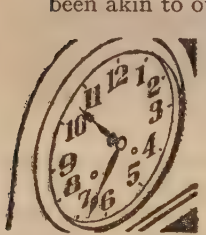
Coal. The sunshine was "bottled" millions of years ago in the vast swamps of the Carboniferous world and is now unloosed to crackle and flame in our grates, warming and cheering us.

What is "pigeon's milk"?

It is the partially-digested food with which the parent pigeons feed their young. It is, of course, not really milk, but food which the old birds first swallow and then retain in their crops until it has become softened and transformed into a kind of milky fluid.

What was the earliest kind of animal possessing a form of backbone?

A queer "almost-fish" called an ostracoderm. It lived in the Ordovician period, and appears to have been akin to our present-day hag-fish and lamprey.



Who invented the first accurate clock?

Christian Huygens, the famous Dutch scientist. He used the principle of the pendulum discovered by Galileo.

Is the cuckoo a useful bird?

Yes, for it feeds upon many injurious insects, especially those prickly, hairy caterpillars which no other bird will touch.

Why is the American mocking-bird so called?

Because he is a most clever mimic. He can imitate the songs of other birds so perfectly that it is impossible to tell the "true" song from the "false."

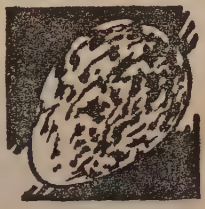
With how many inventions is Thomas Edison credited?

A full list of them would take up very much more space than is available. It is interesting to note, however, that he took out more than a thousand different patents.

Who was the first man to investigate colour-blindness?

John Dalton (1766–1844), the English scientist, who discovered the secret of the atom. He himself was almost entirely colour-blind. In his investigations he found out a great deal about the human eye and the science of optics.

Why, in some parts of the country, is the yellow-hammer called the "scribbling lark"?



Because its pale pinkish eggs look as if they had been scribbled all over with fine hair-like lines of a dark purplish-red colour.

What was Edison's greatest work?

The production of an incandescent electric light. We may truthfully say that it was Edison who turned on light for the world.

Of what metal is the filament of an electric bulb made?

Tungsten. This metal is employed because it offers so much resistance to the current flowing through it that it becomes white-hot and yet, because of its high melting-point, does not fuse.

Who was the young Indian prince who gave up home and possessions in order to find the True Way of Life?

Siddhartha Gautama, who lived in the sixth century before Christ. The religion he founded—Buddhism—is practised by more than 150 million people to-day.

Is a spider always a spider?

Yes; from the moment it hatches out of its egg it is a very tiny edition of its parent. It does not pass through a grub or a caterpillar stage.

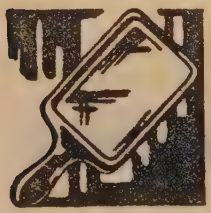
Why is it difficult to discover a lark's nesting-place?

Firstly, of course, because the nest is so cunningly hidden away in a shallow depression on the ground; and secondly because the birds never furnish a clue as to where it is hidden. After their song is ended they drop to the ground, some distance away from the nest, and make their way home hidden from sight in the waving grass.

What was the Colossus of Rhodes?

It was a 105-foot bronze statue of Apollo, the sun-god, erected at the entrance to Rhodes Harbour about 280 B.C. After standing for only fifty-six years, it was thrown down by an earthquake and lay in pieces for nearly 900 years, when it was sold for old metal. It took more than 900 camels to carry the metal away.

Is the glass mirror a modern contrivance?



Mirrors of glass backed with tin or mercury were in use many long years ago, but the best kind of mirror, backed with a thin layer of pure silver, is scarcely a century old. The method of fixing the silver on the glass was discovered by a German, Justus von Liebig (1803–1873).

How did cast iron come to be called "pig iron"?

Because the moulds into which the molten metal is drained were originally made of sand, and bore a fancied resemblance to a litter of young pigs being fed by their mother.

What causes the disagreeable little swellings which we sometimes get on our legs after a summer ramble through long grass?

They are caused by the larva of the tiny red harvest-mite. It burrows into the skin and sets up irritation.

Who proved that the sun "stands still"?

Nicolaus Copernicus (1473–1534), a native of Poland. He showed us what the solar system is—how the sun "stands still" in the centre of it; how the planets all revolve round the sun; how the earth turns round on its axis once a day, and why that makes it appear as if the sun were going round the earth.

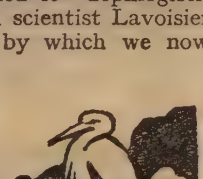
Was the English Channel ever dry land?

Yes, in Pleistocene times, thousands of years ago. Europe was raised higher above the sea than it is now and the British Isles were united with each other and with the mainland in a great north-western peninsula.

Who discovered oxygen?

Joseph Priestley, an Englishman, in 1774. He thought it was not common air, but air "in much greater perfection." He quaintly named it "dephlogisticated air." It was the French scientist Lavoisier who gave this gas the name by which we now know it.

Are storks ever seen in England?



The white stork occasionally visits East Anglia and, more rarely, the southern counties during the summer months.

What doors were described as being "worthy to adorn the gates of Paradise"?

This was the description applied by Michelangelo, the great Italian artist of the fifteenth century, to the bronze doors carved by the Florentine, Ghiberti, which are at the eastern entrance of the baptistery in Florence.

What are "paste" diamonds?

Imitation stones made from a very heavy glass.

"But to know
That which before us lies in daily life,
Is the prime wisdom." MILTON.

Why do jewels cost so much?

Because they are so difficult to find. Similar gems can be turned out in a factory for only a few shillings. But if it has been made by Mother Nature, a single little piece of stone may cost a fortune.

How many independent states are there in Africa?

Three: Egypt, Abyssinia and the negro republic of Liberia.

When was Japan first visited by Europeans?

In 1542, by Portuguese traders.

What is the regulation weight of an Association football?

Not less than thirteen nor more than fifteen ounces.

What are the dimensions of an Association football playing field?

The maximum size is 130 yards by 100 yards, the minimum 100 yards by 50 yards. The goals are 8 yards wide and 8 feet high.

Why was the great French scientist Lavoisier condemned to the guillotine?

Because he was a "farmer-general," that is, a tax-gatherer; and in the days of the Revolution the farmer-generals were perhaps the most hated class. He was executed in 1794—"The Republic has no need of scientists," declared the ignorant populace of that day.

When is a diamond said to be of the "first water"?

When it is without a flaw and without the slightest tinge of colour. One slightly less clear is of the "second water"; one still less clear of the "third water."

"A wise man in the company of those who are ignorant has been compared by the sages to a beautiful girl in the company of blind men." SAADI.

Do you know that the Japanese were once forbidden to build ocean-going ships?

In the early seventeenth century foreigners were forbidden to enter Japan, and natives were ordered not to leave. Only the Dutch obtained permission to keep a trading post off the coast, and to make an annual visit. This ban was in force for over two hundred years, until, in 1853, an American called Commodore Perry sailed into Yedo Bay bearing a letter from the president of the U.S.A. to the emperor of Japan.

What religion forbids the use of alcohol?

The Mohammedan religion. Mohammed, its great prophet, forbade his followers to have anything to do with the liquor which makes beasts out of men.

Which is the largest of all sea-birds?

The albatross, which is quite four feet long, and has a wing span of at least ten feet. It is often called the "wanderer" because it travels vast distances over the ocean.

Do you know the weight of a tennis ball?

It should be not less than 2 oz. nor more than $2\frac{1}{16}$ oz.

What is the correct term for a settlement of penguins?

A rookery.

What is an emperor penguin?

The largest of all penguins, standing between three and four feet high. He never comes on land, but spends his time in the sea or on ice-packs off the shore. The eggs are laid on ice, and although the female keeps them as warm as possible with her feathers, they are frequently frozen and do not hatch.

What were the "Wars of the Chrysanthemums"?

The name given to civil wars which raged in Japan for fifty years during the fourteenth century. Two rival lines of emperors claimed the throne, a true line in the south and a false line in the north. The struggle was probably prolonged by the fact that some clans would deliberately divide, some members fighting on each side, in order to make sure that, whoever won, there would be friends among the victors and thus the family lands would not be seized.

How fast can an ostrich run?

Sixty miles an hour.

What language depends upon the tone of voice to indicate different shades of meaning?

Siamese. To-day there are five different tones in use which are necessary because the vocabulary is so small. The writing, too, is strange, since all the words are run together, spaces being left only between sentences and phrases.

Since when has the "English cup" final been played at Wembley?

Since 1923. For many years it was played at the Crystal Palace; from 1920 to 1922 it took place at the Stamford Bridge ground in south-west London.

Where is there snow a few miles from the equator?

At the summit of Mount Kenya, in Africa, which is about 17,000 feet high and wears a perpetual snow-cap.

What emperor ordered that all books should be burned?

The Chinese emperor Shih Huang Ti, who ordered, on pain of death, that all books should be burned because, according to Chinese tradition, he wished himself to be recorded as the "First Emperor" of China, which, in fact, he was not.

"That jewel knowledge is great riches, which is not plundered by kinsmen, nor carried off by thieves, nor decreased by giving." BHAVABHUTI.

Do you know that "an orange" was once called "a norange" and "an adder" "a nadder"?

These are two of the innumerable instances in which an initial letter has been attached to the article through slovenly speech. A reversal of this process is found in "a newt," which was originally "an ewt."

How did the word "bedlam" originate?

It is a corruption of Bethlehem, where in the year 1200 a religious house was founded. A branch of this house was later instituted in London, and its chief object was the care of demented people; it was, virtually, a lunatic asylum. Naturally there was frequently noise and confusion in this tragic house, hence the expression "a perfect bedlam," indicating any noisy gathering.

When was the Football Association Cup competition instituted?

In 1871. An amateur team called The Wanderers were the first winners, and they won the Cup five times in all.

Do you know that the Romans played a game that resembled Rugby Football?

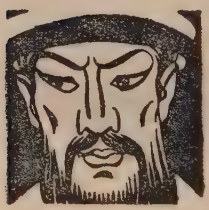
It was a game called Harpastum, and the main object was for the players on each side to seize a ball and carry it across a line marked out behind the opposing players.

How did the name "Della Robbia" ware originate?

This glazed earthenware is named after Luca della Robbia, a Florentine artist of the fifteenth century, who originated it as being a material which was extremely beautiful, easy to work and cheaper than stone or bronze.

Which nation has the largest possessions in Africa?

France, who holds an area of 4,200,000 square miles, including the greater part of the Sahara Desert. Britain comes next with about 3,800,000 square miles.



Who were the Manchus?

A Mogul race which ruled China from 1644–1912.

What race of people are called "negritos"?

A diminutive race of negroid people found in the most mountainous parts of the Malay Peninsula. They seldom reach five feet in height, and live by hunting and fishing, never having learned how to plant and reap.

How many Mohammedans are there in the world?

Some 210,000,000, or about half as many people as there are in the whole of Europe.

Why do Mohammedans consider it to be part of their religious duties to make a pilgrimage to Mecca?

Because their prophet, Mohammed, who was born there about the year A.D. 570, laid his hand on a sacred stone upon re-entering his native city as a conqueror, after he had had to flee from it for his life. This stone, which is probably a meteorite, had previously been regarded as holy, but it was at once re-dedicated to Mohammed, and is still kissed by thousands of pilgrims who go to Mecca each year.

What is the meaning of the word "jinricksha"?

This two-wheeled vehicle, which originated in Japan, is drawn by a man who runs between the shafts, and a literal translation of the word is "man-power-carriage." It is fast being displaced by the taxi.

Who was the first European to reach India by sea?

Vasco da Gama, the Portuguese explorer, who in 1498 sailed round the Cape of Good Hope and thence eastwards by way of the Indian Ocean. He remained in India for six months, and his fellow-countrymen later set up trading posts and settlements along the Malabar Coast.

Do you know that some birds can sew?

The tailor-bird of India, Burma and China sews leaves together to form its nest. With a sharp-pointed beak it pierces the edges of leaves, and through the holes so made draws threads of spider's web, caterpillar silk or cotton fibre from plants.

Where is Timbuktu?

In the French Sudan, in West Africa. It is an important trading centre, being situated on the River Niger, and is thus designated "the meeting-point of the camel and the canoe." The city was founded about the year A.D. 1100 and acquired by the French in 1893.

When did a rash toast cost a man his life?

It is related that one day, as the Emperor Caligula was entering Rome, a young man who was drinking wine toasted him with the words "To the health of the goat!" The indignant emperor had the rash youth seized and put to death on the spot.

How did Pall Mall get its name?

Croquet is a development of an old French game called "paille-maille," from "palla"—ball, and "malleus"—mallet. The game was commonly played in a long alley near St. James's Palace, and was popularly called "pell mell," which is said to have given its name to the street we know to-day as Pall Mall.

In what year was the first English newspaper published?

In 1622; twenty-seven years later all newspapers were for a time suppressed.

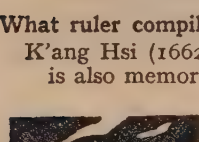
"It is better to be unborn than untaught; for ignorance is the root of misfortune." PLATO.

How did the name "guinea" originate?

The gold from which the first guineas were made was obtained from Guinea, in the north-west of Africa.

What ruler compiled a dictionary?

K'ang Hsi (1662–1723), Manchu ruler of China. He is also memorable for his many moral sayings.



Are eagles found in Britain?

Yes, in the remote and lonely glens of Northern Scotland the magnificent golden eagle is occasionally seen. He is the chief of the eagle clan, often measuring nine feet from tip to tip of his outstretched wings.

What saint was said to have preached to birds and fishes?

St. Francis of Assisi (1182–1226), who founded the great Order of St. Francis, composed of friars sworn to eternal poverty. Originally a gay young man of fashion, Francis suddenly changed his mode of life at twenty years of age and thenceforth devoted himself to the poor and the sick. He preached in many lands, and was said to have preached a sermon to birds and fishes, since Jesus said the Gospel should be preached to "every creature."

What eagle eats fish but never catches it from the sea?

The so-called bald eagle of North America. This bird, which is by no means bald but has a snow-white head and neck, a dark-brown body and a white tail, steals his fish from the fish hawk. When the fish hawk has captured a big fish and is flying off with it, the eagle, with a blood-curdling shriek, swoops down and forces the other bird to drop its prize. Then the eagle catches the fish in mid-air and sails away to devour it.

What was the Ichthyosaurus platyodon?

A strange animal, about thirty-five feet long, which lived in England one hundred and fifty million years ago. It was a sea-living reptile, with a porpoise-like body and four fins. Its snout was equipped with sharp teeth.

What was the "Black Hole of Calcutta"?

A low-ceilinged prison less than twenty feet square and ventilated by two small iron-barred windows, into which, in 1756, one hundred and seventy-four British settlers were thrown because they defied a "nabob," or Hindu ruler. The settlers in Calcutta had refused to hand over an enemy of the nabob's, who had sought refuge there, so they were overwhelmed and thrown into this "black hole" and left for the night without water. Only twenty-three survived.

When did Cowes become a yachting centre?

In 1588, when Queen Elizabeth gave an order for a royal vessel to be built there.

Which is the largest of flying birds?

A species of vulture called the condor, which is found in the Andes. It measures twelve feet across its outstretched wings.

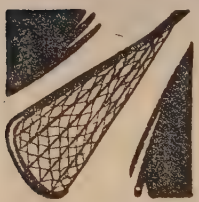
How and when did grease instigate a mutiny?

The cause of the Indian Mutiny of 1857 had its origin in the discontent of native chiefs, but the "spark which fired the powder" was a tactless blunder by the British authorities. A cartridge was introduced at that time which was greased with fat, and which the Indian soldiers thought must have come from pigs or cows. The pig was unclean to the Mohammedans and the cow sacred to the Hindus, so the use of a product of either animal was considered an outrage.

"Be wise with speed;
A fool at forty is a fool indeed."
MONTAIGNE.

What is the "Mona Lisa"?

The mysterious and fascinating portrait by Leonardo da Vinci (1452–1519), which is in the Louvre, Paris. The sitter was Madonna Lisa, wife of a Neapolitan, and the picture is probably the most famous in the world. The woman's face is set in a subtle smile, which some call beautiful and some evil, but which has remained a haunting mystery since the day that the portrait was completed.



By whom was lacrosse first played?

By the Iroquois Indians, from whom French settlers learnt the game. To-day it is to Canada what cricket is to England.

What penguin brays like a donkey?

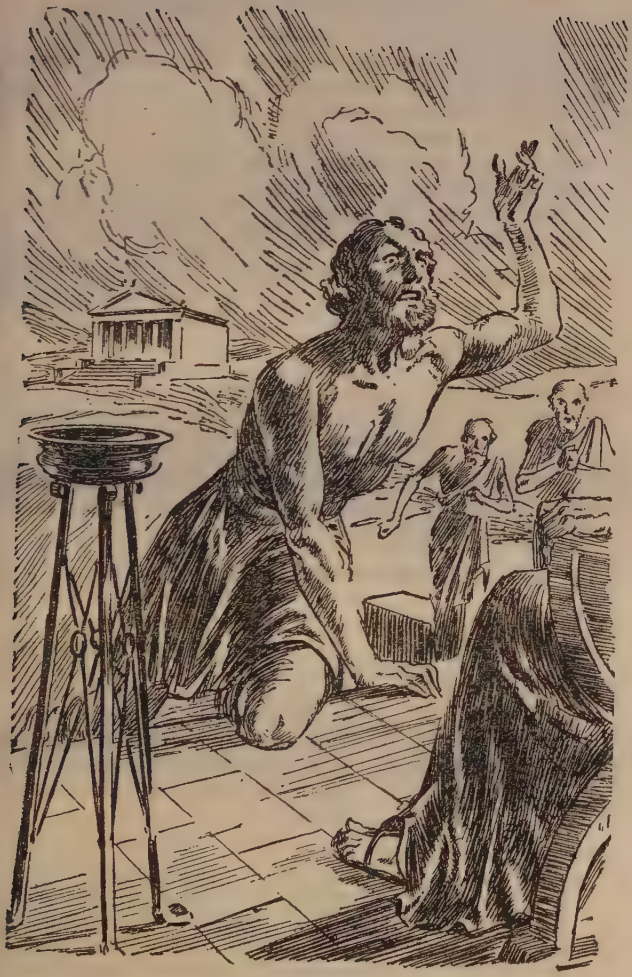
The jackass penguin, which lives in the Falkland Islands.

Why would we find it difficult to write in Chinese?

Because the signs used are "ideograms," or pictures. Each picture represents a word and thousands of them have to be memorized; while, in addition, great artistic skill is required in the drawing of the complicated figures. Nowadays a special alphabet is used for sending telegrams.

Who is the most famous runner of all time?

Phidippides, a hero of ancient Greece. When Darius of Persia planned to attack Athens, Phidippides was sent to Sparta, one hundred and forty miles away, to seek help. He reached there at the end of the second night, and two days later he had returned. When the Persians were defeated at the battle of Marathon, Phidippides carried the news to Athens, and fell dead after announcing it.



PHIDIPPIDES

Do you know that an experiment in State socialism was made more than nine hundred years ago?

In the eleventh century Wang An-shih, a scholar and statesman of China, contemplated the control of industry by the government and actually introduced old age pensions and minimum wage laws among other reforms! Unfortunately, he lost power before his schemes could be completed.

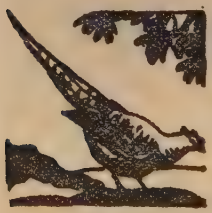
Who discovered the Victoria Falls?

David Livingstone (1813–1873), the great missionary explorer of the African wilds. He named them in honour of Queen Victoria.

What bird lays out a garden for itself?

The gardener bower-bird, which lives in the tropical forests of New Guinea. In front of the arbour of moss and twigs which it builds, the bower-bird makes a "garden" strewn with brightly-coloured flowers and berries. When any of these wither they are replaced by fresh ones.

Is the pheasant a native of Britain?



No, it was introduced centuries ago. The pheasant is a native of Asia Minor and South-east Europe. Two of the most beautiful species are the golden pheasant and the silver pheasant of China and Tibet. The peacock, also an Eastern bird, is a member of the same family.

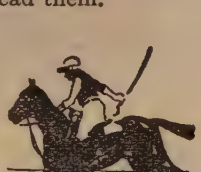
How can the blind read?

By using a special system of printing in relief, the most common being the "Braille" method. This consists of a series of raised dots, a certain arrangement of which stands for each letter. The trained, sensitive fingers passing over these tiny mounds of paper can read almost as rapidly as the eye.

Where do criminals carry a record of their crimes about their necks?

In parts of China. For the purpose of work convicts are chained one to another, and about their necks there are locked boards on which are catalogued their misdeeds so that all may read them.

Where did polo originate?



In Persia, where it was played by the cavalry hundreds of years before Christ. Thence it spread eastwards and eventually reached India, from which country it was brought to England by army officers in 1869.

How is an etching made?

The surface of a copper plate is covered with a thin coat of wax. In this wax the design is drawn with a needle, deeply enough to cut through the wax to the plate below. Strong acid is then applied and allowed to eat into the surface of the plate wherever the wax has been scratched away. Next, the acid and wax are removed and a coating of ink applied; this is wiped away, leaving only what is embedded in the lines of the design burnt out by the acid. A sheet of damp paper is applied to the plate and firmly pressed, the inked design being thus transferred to the paper.

Why are humming-birds so called?

Because as they fly the rapid vibration of their wings causes a humming sound. These lovely humming-birds, of which there are at least five hundred species, are natives of South and Central America. They assume a most gorgeous variety of colours, and some are so small as to be scarcely larger than a bumble-bee.

When did the English first establish a trading settlement in India?

In 1612, at Surat.

"Knowledge is not an inert and passive principle; . . . it is the product of great labour, and therefore of great sacrifice." BUCKLE.

Did you know that more than half the people of Japan are farm-workers?

Although Japan's soil is not fertile, by dint of hard work and intensive cultivation the inhabitants raise large crops of rice, barley, wheat, tea, tobacco, potatoes and soya beans, among other things.

Where do women bind their feet to make them small?

The custom is still practised in China and dates back to A.D. 500. Not only are tiny feet considered to be beautiful, but they also prove that a woman's station is such as to make it unnecessary for her to use her feet for strenuous work.

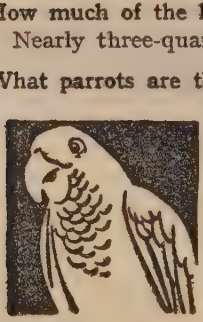
Why are some parts of the earth desert and some jungle?

It is rainfall which determines the vegetation or lack of it. Where much rain falls, vast forests and tangled undergrowth will arise; where there is less rain we find wide, grassy plains, and where there is scarcely any rain, the land is desert.

How much of the human body consists of water?

Nearly three-quarters of it.

What parrots are the best talkers?



The grey ones of Africa. Cockatoos, which come from Australia and the East Indian islands, are also clever talkers, but are liable to screech a great deal and are less intelligent than parrots.

Where is a father sometimes named after his son?

In Arabia the birth of a male child is so important an event that the father is sometimes designated according to the child's name; thus if the baby were called "Kassam," the father would be addressed as "father of Kassam."

What bird has been described as "bellowing like a bull"?

The bittern, which has a strange, booming call. It is found chiefly in the great reed beds of the Norfolk Broads and is a solitary bird of nocturnal habits. Its brown and buff feathers blend well with the surrounding reeds, and if it is disturbed it stands motionless, with its beak pointing towards the sky, and thus is almost indistinguishable from the surrounding leaves.

What is an oasis?

A locality in the desert where vegetation flourishes and water is to be found. It forms a stopping-place for caravans on their journey across the burning sands.

Does an ostrich hide its head in the sand when frightened?

No, this is a fallacy. The bird usually takes to its heels, and in a straight run could out-distance the fleetest horse; because the ostrich does not run straight, but in a wide circle, it can be cut off in its flight and lassoed.

What bird has no tail and scarcely any wings?

The kiwi of New Zealand. It is about the size of a large hen and its two small flaps, which constitute wings, are completely hidden under a mantle of grey and brown hairy feathers. The bird cannot fly, of course, and nests in a burrow scooped out of the ground.

When and where was the first alphabet invented?

More than six thousand years ago, in Egypt. The Phoenicians borrowed the idea from the Egyptians, while the Greeks adopted it from the Phoenicians. Then the Romans inherited it, and from them the alphabet came to Britain, after having undergone many changes from its earliest pictorial form.

How did scholars learn to decipher hieroglyphics?

By means of the Rosetta Stone (now in the British Museum), which was found in Egypt in 1799. The inscription on the stone is written in two languages, Greek and Egyptian; but the Egyptian version is in two forms, in the old hieroglyphics and in a simplified and later form of writing. Because this latter style and Greek were already known, after many years the hieroglyphics were deciphered.

What emperor calls himself the "king of kings"?

The emperor of Abyssinia, in north-east Africa. The rulers of this independent kingdom claim to be descended from Solomon and the queen of Sheba.

When was a law made which prohibited many people from reading the Bible?

In 1543, not long after the first officially authorized publication of the Bible in English, a law was passed that "no woman (unless she be noble or gentlewoman), no artificers, apprentices, journeymen, serving-men, under the degree of yeomen . . . husbandmen or labourers" should read the sacred book, under pain of fine or imprisonment.

How did the English acquire the island of Bombay, the centre of British influence in Western India?

When Charles II, in 1661, married a Portuguese princess, she brought it to him as her dowry. Later it was given to the British East India Company.

Where did widows burn themselves on the funeral pyre of their husbands?

In India. This terrible custom was known as "suttee," and because it was considered honourable and had a deeply religious significance, it was suppressed only with the utmost difficulty by the British authorities.

What is the capital of India?

New Delhi, officially opened in 1931. It lies about five miles south of the ancient city, and is built in an imposing style, with a blending of native and modern architecture.

Do you know that the playing of bowls was once forbidden by parliament?

In the Middle Ages several English parliaments forbade the game because it interfered with the practice of archery. Even Henry VIII was said to have broken his own laws when he played bowls at Hampton Court.

Who invented the telephone?

Alexander Graham Bell, of Boston, Massachusetts, in 1876.

What famous painter gained a reputation as an ambassador?

Rubens (1577–1640), the great Flemish artist. He was a master of seven languages and acted as an ambassador for the duke of Mantua as well as for the king of Spain, for whom he negotiated with England. In this country he was knighted by Charles I and received an honorary degree at Cambridge. When an English courtier asked: "Does the ambassador of his Catholic Majesty [the king of Spain] amuse himself with painting?" the reply came from Rubens, "No, I sometimes amuse myself with being an ambassador."

What bird is known as the "cock of the rock"?

An American tropical bird about the size of a pigeon, with flaming orange-red feathers and a helmet-shaped crest of the same hue. The male birds perform a dance when the mating season begins, with the hens as an audience. At the end of the ceremony each performer selects a mate and the pairs depart to make nests of mud and moss on the face of a cliff.

Who founded the Methodist Church?

John Wesley (1703–1791). While at Christ Church, Oxford, he and some fellow students banded together for Bible readings and prayer, and because they made rules of conduct and tried to bring some *method* into their religious life they were called "Methodists." Until his death Wesley remained a member of the Church of England, although his Wesleyan Societies found it necessary to become a separate communion a few years later.

Why does a tree die after its bark has been "ringed"?

Because cutting through the bark all round has prevented the flow of food materials from the leaves down to the roots.

Which part of a tree conducts water and mineral substances from the roots upwards?

The sap-wood, just within the cambium layer of the bark.

What is the function of the work cells in the bark of a tree?

To insulate the stem against over-heating and prevent undue loss of moisture from the surface.

What birds build an "hotel" where numbers of them live together?

The sociable weaver-birds of Africa. Two or three hundred of them help to weave a roof of grass under which each pair builds its nest, completely sheltered from rain-storms and the sun's heat.

Who was the poor student who became a leading light of the Protestant Reformation?

Martin Luther (1483–1546), a German monk who defied the Pope and insisted on attacking the abuses in the Church. In the end his followers had to break away from the Catholic Church altogether.

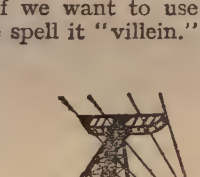
What bird is trained to catch fish?

The cormorant. In China and Japan cormorants are caught when they are young and trained to catch fish for their owners. At first collars are attached round the birds' necks, to prevent their swallowing the fish, but they soon learn to bring back their prey unharmed.

Did you know that the word "villain" originally meant a farm-labourer?

It came into English from an Old French word "vilein," which meant a serf, or a person bound by law to stay on one farm and till it. In time it came to be used for any person of humble origin, or an ignorant or rough fellow. At length it assumed the meaning of a wicked person, and in such a sense is used to-day. If we want to use the word in its original sense we spell it "villein."

When was wireless first used to report an accident at sea?



On March 3, 1899, when the East Goodwin Lightship was run down by a steamer; the lightship had on board experimental wireless apparatus installed by Marconi, and her messages to shore brought lifeboats to the rescue.

When were the first wireless signals sent across the Atlantic?

On December 12, 1901, when Marconi at St. John's, Newfoundland, heard the clicks that stand for the letter "S," sent from a station at Poldhu, Cornwall.

Who is regarded as the "first English painter"?

William Hogarth (1697–1764). Before his time there had been no great English-born painter.

Why did Gainsborough paint his famous "Blue Boy"?

Because of a remark by Reynolds, that there could not be a mass of blue in any picture.

What are the three official languages of South Africa?

English, Dutch, and Afrikaans (a dialect of Dutch).

How many policemen are there in London?

The uniformed branch of the Metropolitan Police Force contains about 20,000 men. In addition, there are about a thousand "plain-clothes" men attached to the Criminal Investigation Department.

Which has been called the most brilliant age in history?

The age of Pericles, in Greece. He was born in about 490 B.C. and died in 429 B.C.

Which is the greatest oration of ancient times?

A speech of Demosthenes of Athens "On the Crown." It has also been called the "funeral oration on Greek freedom."

Which are the oldest existing London daily newspapers?

The "Morning Post," founded in 1772, and "The Times," which began in 1788.

When was the stamp tax on newspapers abolished?

It was done away with in 1855, after being gradually reduced; at one time it stood as high as threepence halfpenny per copy.

Who invented the steam cylinder printing press?

A German named Frederick Koenig. Two of his machines were used to print "The Times," in November, 1814.

Who invented the linotype for producing lines of type matter automatically?

Mergenthaler produced this machine in 1885, and five years later it was introduced into Great Britain.

What are the three great divisions of the work of government?

The legislative, or law-making; the executive, carrying out the work of parliament; and the judiciary, concerned with the interpretation of the law.

How did Lord's Cricket Ground get its name?

From Thomas Lord, a Yorkshireman who first rented the ground. He brought about the formation of the Marylebone Cricket Club, in 1788.

What are the two main types of veining in leaves?

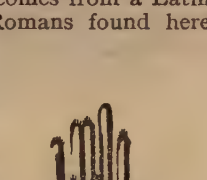
Parallel venation, as found in grasses, and net venation, characteristic of dicotyledonous plants.

Which group of Atlantic Islands is named after dogs and gave its name to a kind of song-bird?

The Canary Islands. The name comes from a Latin word meaning dog, for the Romans found here thousands of great dogs.

Why is a cactus able to subsist in dry and arid regions?

Because it has few leaves to give off water, and its stems are green and manufacture food materials; in the stems are many water-storage cells.



When did Canada first become a Dominion?

In 1867, when the four provinces of Ontario, Quebec, Nova Scotia and New Brunswick were united.

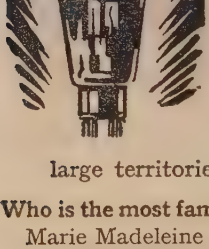
Who discovered the Mississippi River?

Pierre Radisson is supposed to have sighted its upper reaches in 1659. Joliet and Father Marquette reached it from the north in 1673. De Soto, a Spaniard, had already discovered the mighty river from the south.

"Wisdom is a defence, and money is a defence: but the excellency of knowledge is, that wisdom giveth life to them that have it." HOLY BIBLE.

Who was the first European to sight North America?

Leif Ericsson, a Norseman who was blown westwards out of his course on the way to Greenland, and sailed along the eastern coast of North America. This was about A.D. 1000.



Who invented the wireless valve?

Sir Ambrose Fleming invented the thermionic valve, in 1904. Dr. Lee De Forest, in America, further developed the idea.

Who was the first European to explore the St. Lawrence River?

Jacques Cartier, who sailed up the river in 1536 and claimed large territories for France.

Who is the most famous heroine of the Canadian frontier?

Marie Madeleine de Verchères, who defended the fort of Verchères against the Iroquois Indians in 1692.

What are the main divisions of botany?

Systematic botany, dealing with the kinds and relationships of plants; morphology, or plant structure; and plant physiology, or the activities and habits of plants.

Who founded the science of botany?

Theophrastus, one of the most learned of the Greek philosophers.

Who was the first white man to see the Rocky Mountains?

Pierre Gaultier de Varenne, Sieur de la Verendrye, who reached the foot of the Canadian Rockies in 1743.

When was the first English newspaper published?

In 1622, its name being "Weekly Newes from Italy, Germany, etc."

How did newspapers come to be called "gazettes"?

A "gazzetta" was the small coin paid to peruse a sixteenth-century Venetian news-sheet.

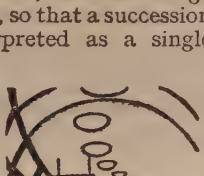
What was the "fifty-four-forty" boundary dispute between Canada and the U.S.A.?

The U.S.A. wanted the disputed Oregon territory as far north as the parallel of latitude 54° 40′. In 1846 the boundary was agreed at the forty-ninth parallel.

What peculiarity of vision makes possible the cinema and television?

"Persistence of vision." When the eye receives an image, it does not at once lose it, but the image persists for a fraction of a second, so that a succession of stationary pictures is interpreted as a single moving picture.

What is the London Passenger Transport Board?



An organization controlling London's trains, trams and buses; it was set up in 1933 by Act of Parliament.

Which period is called the "golden age of Latin letters"?

The reign of Augustus. Livy, Ovid, Horace and Virgil were then writing their immortal works.

Who was the first Christian emperor?

Constantine. While marching against the army of Maxentius, he saw a flaming cross in the sky; taking this for a portent of victory, he adopted a Christian motto, pushed on to Rome and won a victory that made him master in the West. Later he became a Christian.

Whence do the Azores get their name?

From the number of hawks (açores) found on the island by the Portuguese when they took possession.

"A man may live long, and die at last in ignorance of many truths, which his mind was capable of knowing, and that with certainty." LOCKE.

What constitutes the mineral wealth of Greenland?

It has large deposits of cryolite, a curious mineral that melts in a candle flame and is made into aluminium.

How did the ice-clad island of Greenland get such an inappropriate name?

It was given by Eric the Red, who discovered the island in 982; and thus hoped to induce his fellow Norsemen to settle in Greenland.

What is "hog-money"?

This name is given to the first Bermudan coinage, which had the representation of a pig on one side and a ship on the other.

Which notable electrical invention was due to a portrait painter?

The telegraphic receiver, made by Morse in 1837.

Who was the first European to reach the Cape of Good Hope?

Bartholomew Diaz, who sighted it in 1487 and named it the "Cape of Storms."

Which is the strangest lake in the world?

We may well give this title to the Pitch Lake of Trinidad, which is filled with asphalt.

How many pores has a maple leaf?

About 194,000 to every square inch of its surface.

Who invented television?

John Logie Baird. He followed out an idea of a German named Nipkow, who half a century earlier had patented a machine for telegraphing pictures. Baird showed his televised pictures before the Royal Institution, in London, in 1926.

What was the "Great Trek"?

A migration of Boers dissatisfied with British rule in Cape Colony, during the years 1835 to 1837. They founded Natal, the Orange Free State, and the Transvaal.

Which is the largest of the Windward Islands?

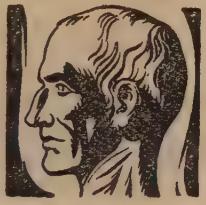
St. Lucia, which has an area of 233 square miles.

Where is to be found a boiling lake high up in volcanic mountains?

In Dominica, largest of the Leeward Islands, there is a volcanic lake 2,300 feet above the sea.

Who was the greatest Roman?

Julius Caesar, renowned alike as an orator, historian, statesman and soldier.



What is an enzyme?

A substance, produced by plants and animals, that enables the food materials to be dissolved and taken up by the living cells.

What was the "First Triumvirate"?

The rule of the Roman triumvirs, Caesar, Pompey and Crassus, set up in 60 B.C. A second triumvirate, consisting of Octavian, Antony and Marcus Lepidus, was formed a few years later.

Which Roman emperor wrote a book that is read to-day in many schools?

Julius Caesar, whose story of the Gallic wars is studied in its original Latin.

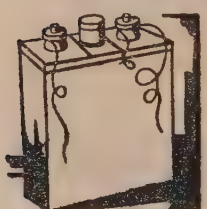
Which is the world's "best governed nation"?

New Zealand is often given this title, for she has built up a sound and humane system of government with enlightened laws that are a model for other countries.

"Wisdom is a pearl; with most success
Sought in still water and beneath clear skies."
COWPER.

What does the green colouring in a plant indicate?

It denotes that the plant can form its own food from carbon dioxide and water it absorbs.



Who made the first electric battery?

Galvani, in 1786, when he found out how to produce a continuous electric current.

What is a saprophyte?

A plant which obtains its food from non-living material.

Who first discovered the exchange of gases between plants and the air?

Joseph Priestley, a clergyman and chemist, who found that plants gave off oxygen.

Which island of the Caribbean Sea is owned jointly by two European powers, yet has as its chief language that of a third?

St. Martin. Since 1638, France and Holland have each owned half of it, while its 10,000 negro inhabitants speak mainly English.

When was the first regular letter post established?

In 1516, when Francis von Taxis instituted a post between Berlin and Vienna.

When were mail-coaches first brought into use by the Post Office?

In 1784, when John Palmer, a Bath theatre owner, suggested that they should be substituted for post-boys on horseback.

Where was tea once used as money?

In Urga, Mongolia, whose people formerly employed bricks of tea as currency. To-day they use Chinese coin.

What are the constitutional rights of the king?

To be consulted, and to encourage or warn ministers.

Where, in the East, is there a hospice of the famous monks of St. Bernard ?

At Si-La, on the borders of China and Tibet, in a pass through which thousands of pilgrims travel.

How many runs were made in all by W. G. Grace, the famous English Cricketer ?

In the course of nearly forty years, he made 54,896 runs.

How many teeth has a pond snail ?

The number varies, but no less than 8,300 teeth have been counted on the tongue of one of the larger pond snails.

What is a wanigan ?

This name is applied to the office buildings in lumber camps of America.

What fish with a shell is not a mollusc ?

The barnacle; though shell-clad, it belongs nevertheless to the crustaceans.

When were the "commons" first included in Parliament ?

In 1265, when Simon de Montfort summoned two burgesses from every borough and two knights from every shire, in addition to the titled landowners.

When did Parliament first gain control over money matters ?

In 1380, when Edward III agreed that no tax should be imposed without the consent of Parliament.

What was the "Bill of Rights" ?

An act passed by Parliament, after the flight of James II, which made it illegal for the sovereign to levy money, suspend the laws, or keep a standing army without the consent of Parliament.

When was payment of members of Parliament introduced ?

The measure was passed by the House in 1911.

"Nothing is more terrible than active ignorance."
GOETHE.

Which of our American colonies began as a fishing ground?

Newfoundland. Within a few years of its discovery by John Cabot, it was the haunt of fishing vessels from England and other European countries.

What are the four important processes carried out in leaves?

Photosynthesis, transpiration, respiration and digestion.

Who were the pre-Raphaelites?

A group of painters who desired to go back to the kind of art that flourished before the time of Raphael. Leading members were Rossetti, Millais, and Holman Hunt.

Who gave to London its first penny post?

William Dockwra. He organized a penny letter post in 1680.

What was the Gordian knot?

A knot in the temple at Gordium, Phrygia. Legend foretold that he who could unloose it would rule the world. Alexander the Great is said to have cut it with his sword.

What is a pipistrelle?

The most common of the twelve species of bats that inhabit the British Isles. It is a very shy and tiny animal, and can often be found in the daytime hiding away in the dark among the rafters of a barn.

What causes the "fairy ring" of mushrooms?

The underground filaments, or hyphae, of the plants gradually use up all the nourishment in the soil at the centre of the cluster, and the oldest hyphae are starved out. Thus there appears a bare patch at the centre, while the ring expands outwards.

THE FAIRY RING

Why is a bat able to flutter in and out of tangled twigs and branches on a dark night without even brushing a leaf with its wings?

A bat does not depend upon sight alone to guide itself past obstacles, but has very delicate organs of sense in its wings and ears and, in some varieties, in strange expansions of skin on its nose. It is believed that these sense organs detect the very slight vibrations in the atmosphere that are set up when the air currents caused by the bat's flight strike against a solid object. Thus bats can guide themselves when flying without the use of their eyes.

When was Australia first colonized?

In 1788, when Captain Arthur Phillip set up a penal station at Port Jackson.

What creature is known as "the Devil's bird"?

This is the unenviable name given to the "flying fox" of Malaya, the largest of all the bats, owing to the noise which it makes and its unpleasant odour.

What is a cobego?

This is another name for the "flying lemur" of the East Indies, an insect-eating mammal remarkable for the broad fold of skin on either side of its body, which it uses like a parachute for gliding from tree to tree.

Which English king invented a method of telling the time?

Alfred the Great. In order to mark the passing of the hours during his nightly labours, he devised a candle graduated in divisions. The time was indicated by the number of divisions that had burned away.

What famous relic is known as the Alfred Jewel?

A piece of jewellery made of gold and enamel, bearing the words, in the Saxon language, "Alfred had me wrought." It was dug up near Athelney in 1693, and was probably lost by King Alfred the Great when he was taking refuge from the Danes in this district. The jewel is preserved in the Ashmolean Museum, Oxford.

What animal is reputed to provide a pillow for the comfort of sleeping travellers?

The aye-aye, a curious animal which lives in Madagascar. The natives believe that if a man falls asleep in the forest, the aye-aye will bring him a pillow. If it lays the pillow at his head, the sleeper will become rich and powerful, but if at his feet, bad luck will overshadow the rest of his life.

Which little animal lives in a fortress, surrounded with a maze of passages and galleries and provided with bolt-holes and emergency exits?

The common mole, whose complicated dwelling is one of the marvels of animal life.

Which is the smallest British mammal?

The pigmy shrew, which measures about three inches, from the end of its snout to the tip of its tail.

What is a "pointillist"?

A follower of Paul Signac, a French painter prominent at the end of the nineteenth century. He built up his paintings with little patches of pure colour all of the same size, somewhat in the style of a mosaic. This method was known as "pointillism."

Which king of France was made a saint?

Louis IX—Saint Louis—whose life was so full of gentleness and piety that he was canonized twenty-seven years after his death, which took place in 1270.

Why do apples shine brightly when we rub them?

Because the skin is covered with certain waxy substances with the object of rendering it waterproof. When the apple is rubbed, the wax acts in a similar manner to furniture polish and produces a shine.

Why is it not really correct to talk about a pineapple as a "fruit"?

A pineapple consists not only of one fruit, but of a great many, all tightly compressed together into a single mass.

What is a monocotyledon?

A plant, such as one of the grasses, lilies or palms, whose seed contains only a single leaf. The monocotyledons form one of the most important divisions of the plant world.

Who was known as Richard Yea-and-Nay?

King Richard I of England. He was given this nickname because it was impossible to depend on his word—he would say "Yes" one minute and "No" the next.

What are Tell Chapels?

Three churches in Switzerland where services are still held every year in honour of William Tell, the Swiss hero who is popularly supposed to have shot an apple from the head of his own son with an arrow from his cross-bow.

What was a minute-man?

A member of a force of armed volunteers drawn from the farming and trading classes of the American colonists, at the time of the War of American Independence. These men pledged themselves to leave their own affairs and march at a minute's notice in defence of their liberties.

When did Parliament pass a law to limit the length of shoes?

In England, during the Middle Ages. Shoes had begun to assume such an extravagant length that frequently the points of them had to be secured to the knees with little chains. The clergy attempted in vain to check this absurd fashion, and at length Parliament was obliged to step in and pass a law to stop it.

When did an English monarch announce his resolution never again to alter the fashion of his clothing?

This announcement was made by Charles II to his court in 1666. Previous to that time men's fashions were continually altering, and the ruinous extravagance that this entailed was becoming a serious matter. Charles kept to his decision, and the uniformity of men's attire in England dates from that time.

Which are the most useful grasses in the world?

The various species of bamboo, which flourish in tropical climates. Their stems are used for building houses and for making bridges, weapons, fishing-rods, rafts, boats, musical instruments, cloth and matting, as well as many other objects, while the shoots are used as food in China, Japan and India.

Why are poplars often known as "pioneer trees"?

Because, after a forest has been burned or cut down, they are usually the first trees to spring up again. Being of a very rapid growth, they serve to shade the slower-growing trees which need this protection in their infancy.

Why was America so called?

After Amerigo Vespucci, a fifteenth-century Italian navigator, who made several voyages along the coast of what is now South America.

Why is the crack willow so called?

Because the twigs of this tree, which are used for making baskets, are very brittle at the point where they are attached to the trunk and readily crack and break away from the latter. On windy days the ground underneath is often covered with broken-off twigs.

Why is a blackberry not really a berry at all?

A true berry has a fleshy wall enclosing a mass of pulp in which one or more seeds are buried. Thus, from the botanist's point of view, grapes, tomatoes, cucumbers and marrows are really berries, while blackberries, raspberries, strawberries and mulberries are fruits.

Who were the first Europeans to discover the American continent?

Not Christopher Columbus and his followers, as is popularly supposed, but Viking seafarers from Scandinavia and Iceland. The most important of these early explorers were Bjarni Herjulfson, who sighted Cape Cod in 986; Leif Ericsson, who, about the year 1000, travelled down the North American coast as far as Nova Scotia; and Thorfinn Karlsefni, who attempted to found the first colony in America. The great voyage of Columbus did not occur until nearly five hundred years later.

Who was the modern painter who earned his living as an officer in the Customs service and yet in his spare time became a famous artist?

Henri Rousseau (1844–1910), who served for many years in the French Customs, or "Douane," and so is generally known as "Douanier Rousseau."

"Ignorance, when voluntary, is criminal, and a man may be properly charged with that evil which he neglected or refused to learn how to prevent." JOHNSON.

When did the sight of a branch of thorn with berries on it fill a little band of despairing men with fresh courage and hope?

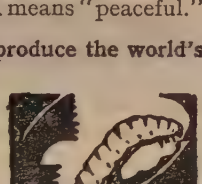
During the famous voyage of Christopher Columbus, during which he discovered the New World. After having been at sea for many weeks and when hope was almost lost, a thorn branch was seen floating in the water. This showed the weary explorers that land could not be very far away, and shortly afterwards, in fact, they dropped anchor in the West Indies.

How did the Pacific Ocean get its name?

It was so named by the celebrated navigator Ferdinand Magellan, the first European explorer to sail across this great ocean; owing to the calm appearance of its waters, he called it Pacific, which means "peaceful."

How many silkworms are needed to produce the world's annual output of raw silk?

About 336,000 millions. About 60,000 tons of raw natural silk are produced annually throughout the world, a ton of silk being the average product of over 5½ million worms.



Who was the celebrated painter who, when unable to hold his brushes through paralysis, had them strapped to his hand and thus went on with his work?

August Renoir (1841–1919), one of the leading Post-Impressionists.

When were wolves last seen in a wild state in the British Isles?

A few solitary wolves were still to be found in Ireland and Scotland in the middle of the eighteenth century. They were exterminated in England, however, in the reign of Henry VII.

What is a dhole?

An animal of the wolf family that is a native of India, where it is known as the "red dog of the Deccan." Dholes run down their prey in packs, and seldom give tongue when they are hunting.

Has a bear the same number of toes as a dog?

No; a bear has five toes on each of its four feet, while a dog has five on its front paws and only four on its hind ones.

Why are bears addicted to climbing telegraph poles?

Because they are passionately fond of honey, and often imagine from the humming of the telegraph wires that there must be a wild bees' nest at the top of the pole.

What is the real name of the familiar, tufted "bulrush" that grows on marshy land?

The reed-mace; the true bulrush is a different plant altogether.

How can we always distinguish an American monkey from one that is a native of the Old World?

The most important difference is that an American monkey is able to use its tail for climbing and grasping, which no Old World monkey is able to do.

Which animal looks as though it were wearing horn-rimmed spectacles?

The spectacled bear of South America, whose name and comical appearance are due to the fact that each of the creature's eyes is surrounded by a large, reddish ring.

What prevents polar bears from slipping down when walking on the ice?

The fact that the soles of their feet are covered with hair, which enables them to secure a firm grip.

"Wisdom may sometimes wear a look austere,
But smiles and jests are oft her helpmates here."
DE BOSCH.

Why are polar bears able to endure without discomfort the strong sunlight in zoos far removed from the polar regions?

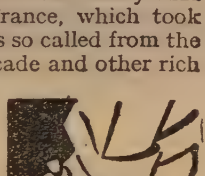
Strong sun does not inconvenience them, as one might imagine, and they can stand a great deal of heat, for they are used to the intense radiation of sunlight from the vast fields of snow in the regions from which they come.

Which are the fastidious little animals that will not eat their food until they have soaked it thoroughly in water?

The racoons, which are natives of North and Central America. Even meat must be treated in this fashion before a racoon will devour it.

What was the Field of the Cloth of Gold?

The celebrated diplomatic meeting between Henry VIII of England and Francis I of France, which took place near Calais in 1520. It was so called from the extravagant amount of gold brocade and other rich decorations which adorned the tents of the two monarchs and their followers.



How many pairs of boots and shoes are made each year in Great Britain?

About 120,000,000.

When did a plant disease cause more than a million and a half people to cross the Atlantic Ocean, and profoundly affect the politics of two countries?

In the middle of last century, when the potato crops in Ireland were so seriously affected by blight that a large proportion of the population was forced to emigrate to America in order to escape ruin and starvation. This had far-reaching effects upon the political and economic conditions of both countries.

What are plant galls?

Lumpy growths which form on the tissue of plants, surrounding the eggs and larvae of parasitic insects.

How were thieves responsible for saving millions of pounds' worth of crops throughout the world?

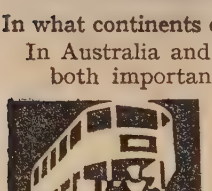
In 1822, when French vine-growers were troubled by thieves stealing their grapes, they sprinkled the latter with a solution of blue vitriol and lime, which gave the plants an unattractive appearance. At the same time, however, the growers noticed that the vines so treated were free from the disease called "downy mildew," a serious scourge of the vineyards. Such was the accidental discovery of "Bordeaux mixture," now used all over the world for killing plant parasites.

Why is it forbidden by law to grow barberry bushes in some parts of the United States?

Because the micro-organism that is responsible for the dreaded "rust" that often ruins the wheat crops spends a part of its life-cycle on the barberry, and cannot come to maturity without the aid of the latter plant. For this reason the barberry is not tolerated in wheat-growing regions.

In what continents of the world are there no wild sheep?

In Australia and South America, although these are both important centres for sheep-breeding.



What is the "circuit-breaker" on a tram-car?

The switch that opens automatically when the flow of electric current is too great. It snaps open with a report and a flash, shutting off the power altogether.

What is a legume?

Any plant whose seeds are borne in a pod, such as the sweet-pea.

"Knowledge is just like the sun in the heavens, inviting us to noble deeds and lighting our path." M. HARVEY.

Which modern British artist is celebrated for painting pictures of circus life?

Dame Laura Knight, D.B.E., who has made a speciality of this unusual but attractive form of art.

Why are the buds of a horse-chestnut sticky?

Their characteristic stickiness is caused by a resinous substance secreted by glands on the surface of the bud. This serves to trap insects, which otherwise might do the bud an injury.

Where is tobacco bought and sold in the form of stout sticks, each being several feet in length?

In Celebes Island, in the Dutch East Indies, where the necessary machinery is lacking for reducing it to the handier forms with which we are familiar.

What are men's felt hats made from?

The felt in the best quality hats is made from the fur of the beaver, musk-rat or nutria. A cheaper felt is made from the fur of rabbits and hares.

What is the meaning of the word Polypetalae?

It means "many petals," and is the name applied to an important group of plants—such as the rose and the buttercup—that have their petals separate, instead of united, like Canterbury bells.

What relationship exists between the carnation and the sweet-william?

They are both members of the same family of plants, that of the pinks.

Who was known as "the Lion of the North"?

Gustavus Adolphus, the heroic Protestant king of Sweden, who is famous for the great valour and brilliant tactics which he displayed in the Thirty Years' War.

What happens when a flower "doubles"?

This remarkable change in the form of flowers, which has given us many of our most beautiful garden blooms, is due to the fact that some of the stamens of the flower change to additional petals, as the result of skilful selection on the part of the grower.

When were staircases designed specially to accommodate ladies' skirts?

During the middle of the eighteenth century. At about this time fashionable women wore hooped skirts of such vast dimensions that staircases were made with outwardly curving balustrades, in order that the wearers of these enormous dresses could ascend the stairs in comfort. These staircases can still be seen in some old houses.

Why is the official seat of the Lord Chancellor of England known as the "Woolsack"?

The name dates from ancient days, when it was ordained that judges in the House of Lords should be seated on sacks stuffed with wool, to mark the importance of wool in English economic life.

What is the meaning of the little bow found inside men's hats?

It is all that remains of the draw-string which in former days was used to tighten the lining band of the hat, so that it would fit the head comfortably. It is simply a relic, and nowadays, of course, is generally quite useless.

When were people forbidden to adorn themselves with lions' tails?

In early days in Egypt. The lion's tail, which was a sign of royalty, was reserved for the king alone, and no one else was allowed to wear it.

Of what does every single object in the universe ultimately consist?

Electricity. All matter is composed of minute particles called atoms, and every atom is made up of two charges of electricity—one positive, the other negative.

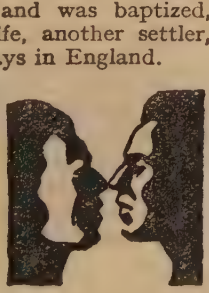
Who was the king who uttered the celebrated words, "I am the State"?

Louis XIV of France. The young king is said to have pronounced this arrogant but characteristic speech on the death of Cardinal Mazarin, his chief minister, intimating at the same time that he was going to take the reins of government into his own hands.

Who was the famous Red Indian maiden who became a Christian, married an Englishman and came to live in England?

Pocahontas, daughter of the chief Powhatan. When Captain John Smith, an English colonist, was captured by her father's people and condemned to death, Pocahontas managed to save his life. Later, she adopted European ways and was baptized, eventually marrying John Rolfe, another settler, and spending the rest of her days in England.

Where do girls greet each other by shaking hands and rubbing their noses together?



This is the usual form of greeting among the Maori maidens of New Zealand.

Where can we still see a football match between players dressed in the picturesque costume of the Middle Ages?

At Florence, in Italy, where such a match is played every year. It is a survival from days long gone by.

Who was the celebrated historical painter who bought a field of grain, had it trampled down, and then included it in one of his most famous pictures?

Jean Louis Meissonier, the French painter of battle scenes. In his painting of the "Battle of Friedland" he wished to include a field of grain that had been trampled as though by an army, and so had recourse to the device mentioned above.

Many women would be astonished to learn that they were wearing dresses mainly composed of tin. Why is this often the case?

Silk is often "weighted" with various substances in order to restore its heaviness, which has been depleted during the process which the material has undergone. One of the most usual of these substances is tin in a chemical form, and often the cloth contains more tin than silk.

What little animal is famous for its powers of killing the most venomous snakes?

The mongoose, which is a native of India and is about the size of a small cat. It is the world's champion snake-killer. Skipping about with such rapid movements that the reptile cannot use its deadly fangs, the mongoose chooses its opportunity and then strikes home with fatal effect.

When was a woman made a goddess in gratitude for a valuable discovery which she had made?

According to a Chinese story, a queen in ancient times discovered a way of unwinding the delicate threads made by the silkworm, and thus introduced the use of silk. In gratitude, her people elected her a goddess, and she is so regarded to this day.

On what charge was Joan of Arc tried and put to death?

On an accusation of witchcraft and heresy. This was the only charge that her enemies could find to bring against her.

ST. JOAN OF ARC

What is the Plymouth Rock, and why is it dear to all patriotic Americans?

It is a massive block of stone which is reputed to be the actual rock upon which the Pilgrim Fathers landed in December, 1620. It is still carefully preserved at Cape Cod, in Massachusetts.

In what ingenious way were silkworms' eggs smuggled into Europe?

Until the sixth century A.D. the secrets of the origin and manufacture of silk were jealously guarded by the Chinese, and death was the penalty paid by anybody who took these secrets out of China. At that time, however, two Christian monks, at the instance of the Emperor Justinian, succeeded in smuggling some silkworms' eggs to Constantinople inside the hollow bamboo canes which they used when walking. The eggs were carefully hatched, and thus this daring exploit proved to be the beginning of the silk industry in Europe.

Are there any wild tigers in Africa?

No; the tiger is entirely restricted to Asia, and does not appear anywhere else in its wild state.

What strange peculiarity distinguishes the coats of lion cubs?

Instead of being of a uniform colour, they are spotted all over, somewhat like the coats of leopards. The last traces of these spots do not disappear until the lions have almost grown up.

Where can we see the gigantic portraits of dead statesmen carved on the side of a mountain?

At Mount Rushmore, in the Black Hills of South Dakota, U.S.A. Here colossal figures of Presidents Washington, Jefferson, Lincoln and Theodore Roosevelt have been carved in the granite of the mountain-side, the faces being 60 feet or more high. The work, which is to form a National Memorial, was begun in 1927.

Why are there very few chestnut trees to be found in the eastern part of North America?

Because they have practically all been exterminated in recent years, in spite of the most desperate efforts of science, by a destructive disease unwittingly introduced from Asia.

What is a cotton gin, and why did it affect the history of a great nation?

A machine invented by Eli Whitney in 1793 for automatically removing the seeds from raw cotton fibre. Previously, this slow and tedious work was done by hand, and the introduction of the gin had the effect of enormously extending the cotton industry in America. Slave labour in the plantations increased accordingly, and this was one of the chief causes that led to the Civil War between North and South.

What is lanolin?

The natural grease of sheep's wool, which must be removed by scouring before the wool is made up into yarn. In the natural state, lanolin prevents the sheep's coat from soaking up water; it is employed in medicine as a base for ointments.

What deadly poisonous plant is used as a valuable food?

The taro, which grows in the tropics. Its starchy roots are eaten by the natives, but only after having been well heated in order to drive out the powerful poison which the raw root contains. Another poisonous plant from which we obtain food is the manioc.

Where is linen thread spun so fine that it cannot be seen by the naked eye?

At Courtrai, in Belgium. This exquisitely fine filament—which, marvellous to relate, is spun by hand—is used for making delicate lace. It has been sold for as much as £240 a pound. At Cambria a linen thread was spun so fine that 272 miles of it were needed to furnish a pound.

"Knowledge is the great sun in the firmament. Life and power are scattered with all its beams."

DANIEL WEBSTER.

At what place in England are wells still decorated with foliage once a year?

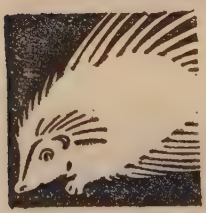
At Tissington, in Derbyshire. This quaint custom, a survival of the past, is observed on Ascension Day.

Is there any difference between the puma and the cougar?

There is no difference at all. Both these names are used for the same animal, which is also known as the panther, catamount, or mountain lion. It is a native of America.

Which is the fastest sprinter of the animal world?

The cheetah, or hunting leopard of Asia. Up to a distance of about six hundred yards it can outstrip any other animal on earth, though it cannot maintain its great speed for a very long time.



In which parts of the world are hedgehogs to be found?

In Europe and the temperate parts of Asia and Africa.

What is "retting"?

A process in the manufacture of linen from flax. The word is a variation of "rotting," and the operation generally consists of soaking the stems of flax in water until the pithy core rots away and liberates the fibres surrounding it.

Who were the Federals and the Confederates?

These were the names given to the two contending parties in the American Civil War. The Confederates were the party of the South, who upheld slavery; the Federals were the party of the North, who opposed it.

What were "carpet-baggers"?

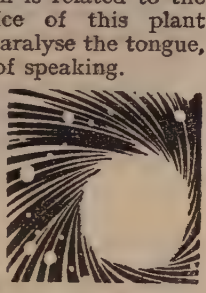
Political adventurers who at the close of the American Civil War, "packed their carpet-bags" and hurried to the Southern States in order to secure the votes of the newly-liberated slaves by unscrupulous means.

What plant can deprive a person of speech?

The so-called "dumb cane," which is related to the English cuckoo-pint. The juice of this plant contains substances which will paralyse the tongue, and thus render one incapable of speaking.

Are the "fixed stars" really motionless?

No, they are all moving at a terrific speed.



How is a monorail car kept from toppling over when it is moving?

It is fitted with powerful gyroscopes, which resist all forces that tend to alter the direction of the axes round which they rotate.

Who were the Impressionists, and why were they given that name?

A group of artists who worked in France at the end of the nineteenth century. They were called "Impressionists" because in their paintings they sought to give a quick, fleeting impression of the object which they were portraying—just as though it were being seen in an instant of time. Among the most famous of the Impressionists were Monet, Renoir, Cézanne, Pissarro and Degas.

Who was the monarch who compelled his subjects to be clean-shaven, and even shaved off the beards of some of his courtiers with his own hand?

Peter the Great, tsar of Russia, who in his efforts to bring his country into line with the other nations of Europe, condemned beards as old-fashioned and barbarous and made them illegal.

What animal maintains an unbroken fast from May until the end of October?

The male fur-seal, or sea-bear. Arriving at the breeding-grounds about the beginning of May, it does not leave them until late in the autumn, and during that time it eats nothing whatever.

What celebrated king despised the language and culture of his own country, but had a deep admiration for those of the nation of which he was a determined enemy?

Frederick the Great, king of Prussia, who could not tolerate German culture and always spoke and wrote in French, although he was frequently at war with France.

If a half-pound weight and a cannon-ball weighing one hundred pounds were dropped at the same instant from the top of a tower, would there be any difference in the time which they take to reach the earth?

There would be no difference at all; they would strike the earth at the same moment. This was the famous experiment of Galileo, by which he proved the ideas commonly held on this point to be in error.

Who was the rich and powerful monarch who delighted in dressing himself in labourer's clothes and toiling in company with workmen?

Peter the Great, tsar of Russia. He often worked with labourers in order to gain a mastery of their crafts, so that he could teach them to his people.

Why are old lions more dangerous to human beings than young lions?

Although, as a rule, a lion will not go out of his way to attack a man, old lions, which have become too feeble to hunt strong, fleet-footed game, will sometimes become "man-eaters."

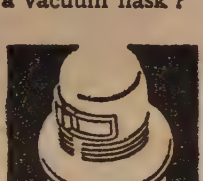
What large sea-dwelling animals are in the habit of swallowing pebbles?

Sea-elephants and some other fin-footed mammals. It is not clear, however, whether the pebbles are swallowed by accident, or as an aid to digestion, such as is customary with some birds.

What was the first fabric ever worn by man?

Linen. The flax plant was cultivated for manufacture into cloth, ropes and fishing-nets in the New Stone Age—long before the introduction of wool, cotton or silk.

Why do liquids keep hot, or cold, in a vacuum flask?



1. Because the inside container is made of glass, which is a poor conductor of heat.
2. Because this inside container consists of a double bottle, between the walls of which there is a vacuum; that is to say, there is no air to carry away the heat by means of convection currents or to allow heat to enter in the same manner.
3. The two inside, opposing surfaces of the double bottle are silvered and thus reflect heat rays, the outer bottle reflecting them back, and the inner preventing heat radiations from entering.

What uncommon use does a walrus make of his long tusks?

He employs them for hauling himself out of the water on to the ice or rocks, somewhat in the manner of grappling-irons.

What are the movements of man when walking through a train that is in motion?

They number at least six. The man moves through the train, but at the same time the train is moving over the earth. The earth itself contributes two more movements, for it is spinning round on its axis, and at the same time speeding round the sun. The sun, in its turn, is moving through space at the rate of about twelve miles a second, and finally, it is thought that the whole universe, of which the sun is but a single star, is itself moving through space. Thus the man is describing six different movements. A fly walking on his hat would have still another movement!

Why does an aspen leaf quiver in a breeze so gentle that it would hardly disturb the leaves of most other trees?

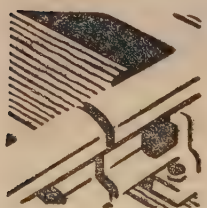
Because the petiole, or leaf-stalk, of the aspen is flattened vertically, as though it had been pinched between finger and thumb. This makes the stalk so pliable that it is responsive to the slightest movement of the air.

Does the Panama Canal run from north to south or from east to west?

From north to south, although it joins the Pacific, on the western side of America, with the Atlantic, on the eastern side. But the twist in the Isthmus of Panama necessitates the canal's running from north to south.

How are massive trees made into gleaming silks and filmy chiffons?

By the viscose process of manufacturing artificial silk from spruce wood that has been reduced to a pulp. The pulp is turned into cellulose by chemical means, and then into a substance called viscose, at which stage it is spun into thread.



Why are gaps left between the ends of train rails?

Heat causes steel to expand; therefore, if no gaps were left, the heat of the sun on a warm day might cause the rails to buckle and twist and thus derail a train.

What is a foot-pound?

A unit of measure which is applied to the amount of work done in raising one pound avoirdupois a distance of one foot. To calculate the amount of *work* accomplished, a scientist multiplies force or weight by distance; for example, if a man lifts a ten-pound weight to a height of five feet he performs 10 × 5, or 50, foot-pounds of work.

What is the strange drapery that hangs from the trees in Florida?

A greyish-green plant called "Florida moss," whose long fibre-like leaves are often seen festooning the branches. It is not a true moss, however, being really related to the pine-apple.

Which occupies the greater space, water or steam?

Steam. At ordinary atmospheric pressure it occupies seventeen hundred times as much space as liquid water.

What gas is chiefly used for inflating airships?

Helium. It is not as light as hydrogen, but it does not burn.

Does it hurt the maple tree to steal its sugar?

The amount that will flow from the tap-hole is only a small fraction of the total amount in the tree, probably rarely more than one-twentieth, and there seems to be little or no danger on this account.

Who were the first people known to have kept tame cats?

The ancient Egyptians, more than three thousand years ago.

Why, at the seaside, does a sea-breeze blow in the daytime?

Because the land heats up more quickly in the sunshine than the water does, and as the expanded air rises from the land the colder air over the water flows in to take its place, thus causing a cool, gentle breeze.

What people used knotted string as a means of "writing"?

The Incas of Peru. They had no written language, but communicated with each other by means of an arrangement of knotted strings called a "quipu," with which they could count and possibly say things by signs.

"Our minds are like certain vehicles,—when they have little to carry they make much noise about it, but when heavily loaded they run quietly." ELIHU BURRITT.

What is the hottest temperature ever obtained on earth?

6,332° F.

How can we tell the age of a stag?

A stag's antlers are shed once a year, being then replaced by a new pair. Every year, until the stag is full-grown, a new branch is added to the antlers. Thus, by counting the number of branches on a stag's antlers, we can tell almost exactly how old the animal is.

What is a "limited company"?

Nowadays, almost all large businesses are organized as "limited companies." The outstanding things about them are that they have permission by law for a group of people to act as though it were one person, and that, in the event of money losses, each shareholder is liable only for the amount of his share subscription.

Which are the two strangest animals in the world?

The duck-billed platypus and the echidna. Both are to be found in Australia—the last survivors of an ancient race. Though they are really mammals, these creatures are, in some ways, more like birds or reptiles; they have beaks instead of snouts, and, stranger still, they actually lay eggs.

Is the tomato a fruit or a vegetable?

It is a fruit, for it develops from an ovary and bears seeds inside it just as an apple does.

Why does the jumping bean jump?

Inside the bean there is the grub of a butterfly, which once it begins to eat, is never perfectly still. Therefore, when the bean is placed on a flat surface, the grub wriggles—and the bean begins to "jump."

Which island in the Pacific is peopled with descendants of English mutineers?

Pitcairn Island. The inhabitants, numbering about 150, are descendants of the rebellious crew which, in 1790, landed there from the English ship "Bounty."

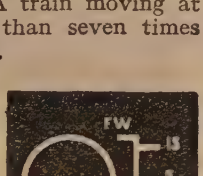
Which famous opera was "howled down" when first presented?

Richard Wagner's "Tannhäuser." It was produced in Paris in 1861, but owing to a political grudge against Wagner a certain section of the audience caused such a commotion by howling and blowing dog-whistles that after three performances it had to be withdrawn.

How fast does light travel?

According to measurements made in 1926, at the rate of 186,359 miles per second. A train moving at that speed could travel more than seven times round the Earth in one second.

What does this line mean on the side of a ship?



It is the Plimsoll line denoting the depth to which the vessel may safely be loaded in different latitudes and different seasons. All sea-going ships must be marked in this way. The line "S" indicates the maximum summer depth in temperate latitudes. "F.W." indicates the fresh-water load line; "I.S." the line for Indian waters in summer. Winter loading is shown by "W" and the winter line in the colder and denser North Atlantic Ocean by "W.N.A."

How do wireless waves differ from light waves?

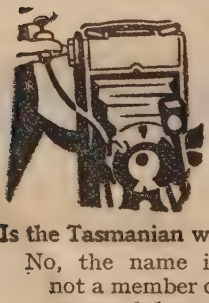
The main difference is in their length. From crest to crest, wireless waves may be a mile or more long, whereas light waves vary from one thirty-thousandth of an inch downwards.

Who is the "armoured knight" of the animal kingdom?

The armadillo, for he is clothed in a complete suit of armour. He is found in America, and lives on insects, worms, slugs and even young ground birds and snakes. Although very fierce-looking, he is a harmless creature.

Do you know that most objects in the world are burning?

In the chemical sense "burning" means combining with oxygen. Life itself is a process of slow burning, for we take oxygen into our lungs, whence it reaches the blood-stream and is pumped into every cell of the body. There it enables particles of food to be digested, and in this process of burning, heat is generated from which our muscles derive energy. Decay and rust are caused by objects combining with the oxygen in the air, and are therefore a form of slow burning.



In what respects may the eye be likened to a camera?

Its lens fulfils the same function as the lens of a camera; the retina of the eye, that of the photographic film; and the iris, that of the diaphragm of the camera.

Is the Tasmanian wolf a wolf?

No, the name is very misleading. The animal is not a member of the big dog family, but a marsupial or pouch-bearer, for the female carries her young after the manner of a kangaroo.

Why do our feet feel warmer on a mat than on a tiled floor?

Because the tiles are good conductors of heat and carry it away from the feet. A mat is a poor conductor, and therefore carries away very little. The actual temperature of the mat and the tiles is the same.

"The mind is but a barren soil, a soil which is soon exhausted, and will produce no crop, or only one, unless it be continually fertilized and enriched with foreign matter." SIR J. REYNOLDS.

Do you know that the hippopotamus is a relative of the pig?

The hippopotamus is the giant of the hog tribe. Its name is derived from the Greek and means "river-horse," although "river-swine" would be a more appropriate name.

When was £2,000 paid for a single plant bulb?

This was said to have been the price paid for a rare variety of tulip bulb in Holland, some time between the years 1634 and 1638. In those days there arose an extraordinary craze for tulips, and even whole villages and corporations speculated in tulip bulbs—until there came a crash in the market and thousands of Dutch people were ruined.

What causes a whale to "blow"?

The whale possesses "blow-holes," or openings to the nose, on the top of its head, and it is through these that it inhales air into its lungs before diving. By means of muscles the openings are sealed until the whale comes to the surface, when it discharges the warm and moist air from its lungs. As soon as this air comes in contact with the cold atmosphere it condenses into visible vapour, just as the moisture of our breath condenses on a wintry day.

Why do weeds keep reappearing even after all the weed-plants have been destroyed?

The majority of weeds come from seeds that have lain "dormant" under the earth for a long period, perhaps eight or ten years or more. Heavy rains will often "wake up" these seeds; and the young plants spring up.

"Knowledge is like current coin. A man may have some right to be proud of possessing it, if he has worked for the gold of it." RUSKIN.

What are wallabies?

Wallabies, which are found in Australia, are small kangaroos with lighter-coloured coats and more hairy tails than their big cousins.

Which is the largest member of the deer tribe?

The European elk, or American moose. When the moose is full grown its antlers measure three to five feet across. It has a thick, stiff mane on its shoulders, and a large, hairy pouch known as a "bell" hanging from its neck.

What animal spends most of its life in a tree, sleeping upright, and moving and feeding upside-down?

The sloth, which is born in a tree and lives and dies in a tree. It finds all the food it needs in its green, leafy home, and all the moisture it requires in the juicy shoots and fruits growing there.

Where does a statue of Christ mark a boundary between two countries?

In the Andes Mountains, where "the Christ of the Andes" marks the border between Argentina and Chile. Disputes concerning the borderline were settled in 1902 by means of peaceful arbitration.

Which is the only Central American state belonging to a European power?

British Honduras, in the north-east corner of Central America. It has belonged to Britain since 1798, and its chief industry is lumbering.

What is the "spectre of the Brocken"?

Standing on the summit of the high Brocken Mountain, in Germany, with the sun setting behind them, people see gigantic shadows dimly resembling men. The clouds in front of the people act as a screen upon which their shadows are cast, but only when the air is heavy with mist.

THE SPECTRE OF THE BROCKEN

Which animal is noted for its trick of pretending to be dead when caught?

The Virginian opossum, which is not unlike a furry rat in appearance. When captured by hunters it drops down limp and motionless, with eyes closed, tongue hanging out, and lips drawn back over its teeth. Even if it is handled it shows no sign of life, but when the opportunity arises it springs up and scampers away.

Why do people who ascend into the stratosphere by balloon enclose themselves in an airtight sphere?

Because the air pressure in the higher regions is far less than that to which the human body is accustomed. In the sealed metal ball the normal pressure is maintained by means of special apparatus.

Which is the largest animal in the world?

The blue fin whale, which sometimes attains a length of one hundred and fifteen feet. In spite of its size it can show an amazing turn of speed, and can glide and turn in the water with effortless ease and grace.

How is the air made into a liquid?

By compressing it and cooling it to a very low temperature. This process of compression with cooling has been applied to many gases, and we can also manufacture liquid oxygen, liquid nitrogen, liquid chlorine, liquid hydrogen and even liquid helium. The temperature of liquid air is 346° F. colder than ice, and a kettle of liquid air would find ice so hot, in comparison, that it would boil if placed upon it.

Why does a knife cut?

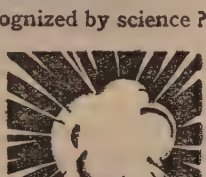
Because the blade consists of two inclined planes. We all know that it is easier to push an object up an inclined slope than to lift it perpendicularly, and it is on the same principle that the two inclined planes which form a blade are easily pushed *through* an object. If the length of the incline is great compared with the thickness of the blade, then the knife is said to be "sharp," and it cuts more easily.

"As the soil, however rich it may be, cannot be productive without culture, so the mind without cultivation can never produce good fruit." SENECA.

How can one inflate a partly deflated air balloon without blowing any more air into it?

By warming the balloon. When the air inside the balloon is heated, it expands, and the balloon swells. It shrinks again, of course, once the heat is removed.

What different kinds of energy are recognized by science?



1. Mechanical energy; as is possessed by bodies by virtue of their position, condition or motion.
2. Heat energy; for example, that provided by a furnace which boils water to make steam.
3. Chemical energy; for example, that given out by ignited petrol vapour and air in an engine cylinder.
4. Electrical energy.
5. Light energy, which comes from the sun.

In what country was there an average of one revolution a year for a hundred years and more than one new government a year for about fifty years?

In Mexico. The century following 1821 saw a hundred revolutions, or attempted revolutions, and in fifty odd years there were seventy-four different governments.

What is coal made of?

Millions of years ago, before man existed, gigantic fern-like plants grew on the earth. In time these decayed and accumulated on the ground; then the ocean flowed in and covered them with layers of sediment, while the weight of the water so compressed them that they hardened. After the sea had withdrawn, this mass of decayed material finished its hardening process under the vast weight of the deposited matter above it until, eventually, it became the valuable black rock which we call coal.

How much of the sun's total energy in the form of light and heat does the earth receive?

Less than one two-hundred-millionth.

Do you know that the buds of certain plants are sometimes pinched to wake them up?

Some woody plants, such as various kinds of lilacs, peaches and apples, fail to develop because the buds are in a dormant condition. A partial injury in the form of a prick, pinch, rubbing or slight poisoning will awaken them and start growth.

How can a twelve-pound weight be lifted by exerting only a three-pound pull?

By means of a "block and tackle" consisting of four pulleys. In this manner the necessary force is reduced to a quarter. It is by means of pulleys that heavy weights, such as pianos, can be hauled up the side of a house by one man.

Of what use to the camel is its hump?

It is really a private larder in which the camel stores fat which will nourish its body when supplies run short. In addition, the camel carries special water-cells in its roomy stomach, which will provide it with water for several days.

What is a dromedary?

An Arabian camel which is bred for swift travelling instead of ordinary pack work.

Who was the composer whose life was saved by a button?

George Frederick Handel (1685–1759), who composed "The Messiah." When he was a young man he had to fight a duel, and a large button on his coat saved him from being run through by his assailant's sword.

How many humps has a camel?

The common Arabian camel has one hump and the Bactrian camel, a native of Central Asia, has two.

In what country are aeroplanes used for giving warnings of fire?

In Canada, where a fire in the vast forests means thousands of pounds' worth of damage owing to the destruction of valuable timber. During the "fire season," in the summer, the civil branch of the Royal Canadian Air Force plays an important part in fire prevention. Aeroplanes are sent over huge tracts of forest and trained observers keep a sharp look-out for any signs of smoke or flame. When these are seen, and the position is noted on a map, the airman wirelesses back to headquarters to warn a body of organized fire-fighters.

Of what are all substances composed?

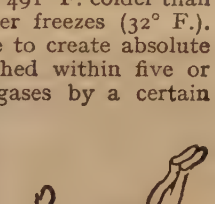
Of molecules or atoms. The smallest part of a compound substance is a molecule, which, in turn, is composed of atoms of elements. A small cube of common salt or "sodium chloride," measuring one centimetre in all its dimensions, contains no less than 16,000,000,000,000,000,000,000 molecules!

What is the lowest temperature possible?

"Absolute zero," as it is called, is 491° F. colder than the temperature at which water freezes (32° F.). Scientists have never been able to create absolute zero, although they have reached within five or six degrees of it by cooling gases by a certain method.

Why is it dangerous to dive too deeply into water?

Because the pressure or weight of the water may injure one's eardrums. At a depth of 11½ feet the total additional pressure on the human body is about 10,000 pounds.



At what height does the atmosphere end?

Probably about 300 miles.

Can a needle float?

Yes, if it is placed very carefully on the surface of the water. On this surface there is a tension which tends to resist any force that tries to break through.

Why is a "radiator" misnamed?

Because most of the heat sent out by it is not by radiation—that is to say by heat *waves*—but by convection. The "radiator" warms the air which comes in contact with it, the warm air rises, cold air flows in to take its place, and thus a "convection current" is caused.

What animal was called a "camelopard"?

The giraffe, because it was believed to be half a camel and half a leopard.

What is the chief food of a giraffe in its wild state?

The leaves of trees, especially those of the acacia. It is for this reason that the giraffe's enormously long neck has developed. The animal does not bite off the leaves, but plucks them with its strong and pliable tongue, aided by its flexible lips and cleft front teeth.

Do you know how many acres of forest there are in the United States of America?

More than 500,000,000. The forests of Canada are even more extensive.

What composer wrote a concerto when he was four years old?

Wolfgang Mozart (1756–1791), who composed a concerto for the harpsichord at this age. By the time he was six he had written a sonata, minuets and many other pieces.

Do you know that the sun's rays can be made to boil water?

By means of an arrangement of mirrors and lenses the rays of the sun have been directed upon boilers filled with water, and steam has been generated. In this way machinery could be driven, but as yet such a plant has not been devised which is practically efficient.

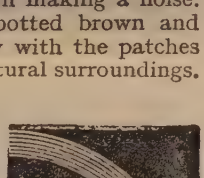
Do you know that an electric lamp gives out more heat than light?

When the filament is heated by an electric current, so that it glows, most of the heat remains unchanged and only about ten per cent or less changes into light.

Do you know that a giraffe is a "dumb animal"?

The giraffe has seldom been known to cry or grunt, even when wounded or dying. This quality is extremely useful to the animal, as it never reveals its presence to an enemy through making a noise. When it is standing still its spotted brown and yellow coat harmonizes perfectly with the patches of light and shade among its natural surroundings.

What makes the rainbow?



The rainbow is produced by the action of raindrops on the white light of sunshine. Each drop acts like a prism in splitting up the white light into the various colours.

How old is the oldest tree?

Between four and five thousand years old. It is a gigantic sequoia, named "General Sherman," in California. It is 273 feet high, and 102 feet round at the base.

Why is it best to use clear pond water for an aquarium?

Because it contains many tiny animalcules which fishes eat.

Which plants bear the largest and heaviest fruits?

Those belonging to the gourd family, such as marrows, pumpkins and water-melons. Water-melons weighing up to 175 lb. have been grown, while fruits weighing about 100 lb. are not uncommon.

How fast does sound travel through the air?

About 1,100 feet per second; that is, about half as fast as a bullet from a rifle.

What makes an echo?

If you stand not very far away from a hill and shout "Hello!" after a brief interval an answering "voice" returns the shout. The echo is explained by the fact that the air disturbance caused by your voice travels outwards until it reaches the hillside, when it is reflected back along its path, and so, after a pause, returns to your ears.

Why does a scout place his ear to the ground when listening for the approach of an enemy?

Because the solid earth can carry sound disturbances better than the air can.

How are buildings made sound-proof?

Double walls and floors are installed, and between the walls and floors soft or granular material is packed; this obstructs the passage of sound-waves from one room to another.

Why would our ears be useless if we lived on the Moon?

Because if, as we believe, the Moon has no atmosphere, there would be nothing to hear! The poorest sound-carrier of all is a vacuum, so, in Moonland, even an explosion of dynamite would be as silent as the hush of night.

Where are dogs made to work for their living?

In Belgium and Holland big, strong dogs are often employed to draw barrows, or little carts, carrying milk or vegetables.

Why does an object in a room "sing" when we strike a certain note on the piano?

Because every object can vibrate best at a certain speed, called its natural vibration rate. If, therefore, the air ripples set up by the note strike the object at its natural rate of vibration, the object begins to vibrate.

What is a matador?

An expert bull-fighter.

Is the Eskimo language difficult to learn?

Yes, very difficult indeed, for it is amazingly complicated. For example, a noun, such as the word "baby," has only four forms in English—baby, baby's, babies, babies'—but in Eskimo it can assume several hundreds of separate forms. And there are as many forms for a verb.

Do you know that there is a species of dog which cannot bark?

It is the half-wild husky, or Eskimo dog, of the Arctic regions of North America. He can howl and yelp —but he cannot bark. Barking is an acquired accomplishment which marks the domesticated animal.

Have you heard of the dog who saved nearly a hundred men's lives?

He was a sheepdog, named Filax, who served with the Red Cross during the World War. He sought for wounded soldiers in out-of-the-way places and guided the stretcher-bearers to them.

How much water is there in a water-melon?

If we could find a water-melon weighing 100 lb., 98 lb. of it would consist of water, for its pink "flesh" consists of many thousands of tiny, water-charged cells. That is why it is luscious.

What is "vegetable ivory"?

A hard white substance yielded by a plant that grows in South America in the same forests as brazil-nut trees and rubber trees.

What is colour?

A sensation produced when a certain kind of light energy is received by the eye. Light energy is believed to travel through the ether in the form of waves, and different wave-lengths produce different colour sensations. Thus, a wave length of about one forty-thousandth of an inch produces red, while a wave-length of one sixty-thousandth of an inch produces violet.

What is polished rice?

It is the ordinary white or pearly-coloured rice one buys at the grocer's. In its natural state, however, rice is brownish in colour, for each seed is enclosed in a little brown coat. This is removed by "polishing," in order to make the grain look more attractive.

Have you ever heard of the hairless cat?

It is found in Mexico and has a smooth, mouse-coloured skin that is entirely bare, except in the winter, when a light fur appears on its back and along the ridge of its thin tail. It is a very rare animal.

When did Man first ascend into the air?

The first human flight was made in a captive fire balloon on October 15, 1783, in France. The passengers were Jean de Rozier and Girond de Villette. The first flight in a free balloon was made on November 21 of the same year.

Why does a stone sink when thrown into the water?

Because the lifting force of the water is not great enough to overcome the stone's weight.

"Teach me my days to number, and apply
My trembling heart to wisdom."

YOUNG.

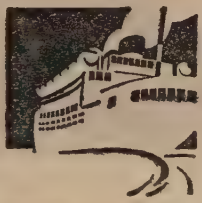
If man had wings, would he be able to fly like a bird?

No, for his muscles would be too weak to flap the wings. Man is not so strong as a bird in proportion to his weight, and he has not the great keel-shaped breastbone to which the wing-moving muscles of a bird are attached.

Who were the first passengers to be carried aloft in a balloon?

A duck, a rooster and a sheep. They ascended, on September 19, 1783, in a fire balloon constructed by the Montgolfier brothers. The balloon rose to a height of 1500 feet and landed safely two miles away from the starting-point.

Why can a steel ship float?



Because it is so shaped that it pushes aside more water than it would displace if it were a solid lump.

Can a solid lump of iron float?

Yes, in mercury—but not in water. It floats because the mercury displaced weighs as much as the lump of iron.

Why is it easier to float in sea water than in fresh water?

Because salt water is heavier than fresh water, and a person immersed in the former cannot ever sink so far as he can in the latter before displacing his own weight of the liquid.

How, before opening it, can we tell if an egg is fresh?

Place the egg in a jar of salt water. If the egg sinks quickly, it is fresh; if it sinks slowly, or if it floats, it is bad. This test is based upon the fact that as an egg grows stale it generates gases and loses some of its substance through the pores of the shell. Thus, though it retains its volume, it becomes lighter and tends to float.

Is seaweed useful to Man?

Yes. Spread over the land, seaweed forms a very valuable fertilizer, or after it has been burned—when it is known as kelp—it is employed in the manufacture of iodine and other useful chemicals.

Do you know what a "hinny" is?

It is the name given to the offspring of an ass and a horse, when the ass is the mother and the horse the father. When the ass is the father, the offspring is known as a mule. Neither a hinny nor a mule can bray or neigh.

What is unleavened bread?

Bread made without yeast, baking-powder or any other substance that will make it "rise." Consequently, it is much heavier and harder. Jewish Passover bread is unleavened.

How old are the oldest human skeletons known?

About 75,000 years old. They were found in 1934 in a system of caves in Mount Carmel, Palestine.

Of what is water composed?

Two gases—hydrogen and oxygen. There is twice as much hydrogen as there is oxygen.

Why is the bottom of a dam thicker than the top?

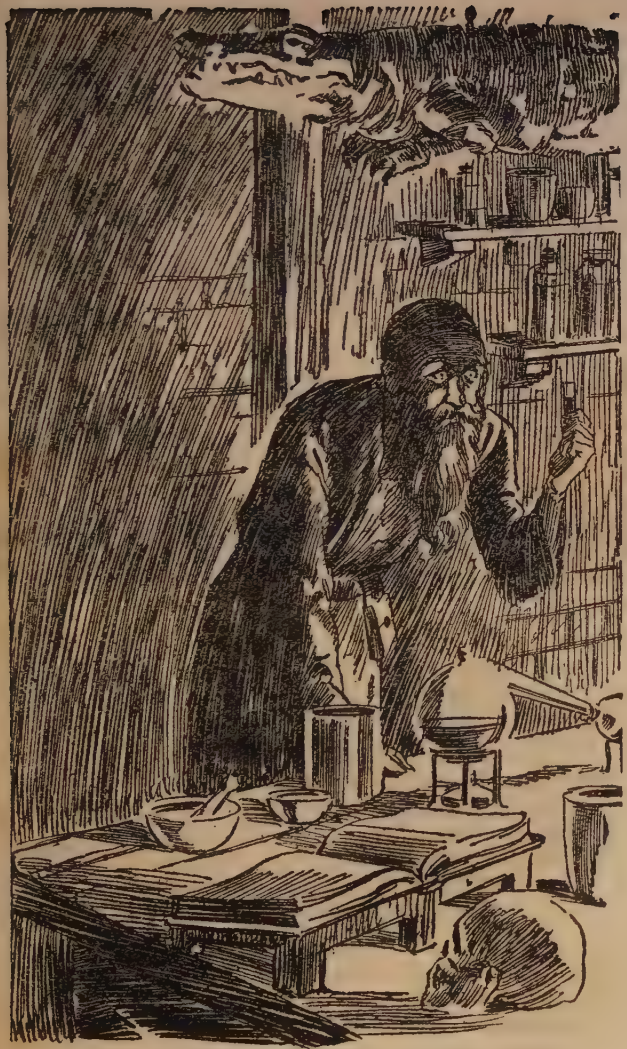
Because the deeper the water, the greater is the pressure exerted by it; therefore a dam must be stronger at the bottom in order to resist this increased force.

What is the difference between a deer and an antelope?

The antlers of a deer are formed of solid bone, while the horns of an antelope are more or less hollow, though set upon a solid base. The antelope does not shed its horns, nor are they branched as are those of a deer.

What was the primary object of the old alchemists?

They sought to transmute base metals into gold.



AN ALCHEMIST IN HIS LABORATORY

"The learning and knowledge that we have is at most but little compared with that of which we are ignorant."
PLATO.

What is a "wildebeest"?

It is the name of a gnu in Africa. The animal is a large, heavy creature with the head of a buffalo, the slender legs and neat hooves of an antelope, and the long mane and flowing tail of a horse.

How did the ancestors of the Red Indians reach the American continent?

It is thought that they travelled from Asia thousands of years ago by way of the Bering Strait.

Who was the chief god of the Mayas?

Kukulcan, or Quetzalcoatl, the bird-snake; his emblem was a feathered serpent.

Of what is air composed?

It is a mixture of gases in the following proportions: nitrogen, 78%; oxygen, 21%; other gases (carbon dioxide, water vapour, argon, neon, helium, krypton, xenon), 1%. The last five gases are of no use to life, for they do not combine chemically with any other element on earth, so they are known as "inert" gases. There is also a trace of hydrogen, ozone and ammonia in the atmosphere.

Why does smoke go up the chimney?

Smoke is made up of minute particles floating in heated gases. The hot gases are lighter than air because the heat has expanded their volume, and since these gases displace an amount of air which weighs more than they themselves weigh, they are lifted up the chimney.

What is the lightest substance in the world?

The gas called hydrogen. Its weight is about one-fourteenth that of air.

"Wisdom and Goodness are twin born, one heart
Must hold both sisters, never seen apart."

COWPER.

Who made the first practical glow lamp?

Edison in 1879 made a carbon filament lamp. J. W. Swan, in 1860, had caused a filament to become red hot.

What were the four "elements" of the early philosophers?

According to Empedocles, all substance was made up of fire, earth, air and water. Arabian philosophers later added three other "elements"—mercury, salt and sulphur.

When did modern chemistry begin?

It may be said to date from the researches of Robert Boyle (1627–1691), a clever Irishman who experimented with gases.

What does an element mean in modern chemistry?

It denotes a substance that contains only one kind of matter.

Which is the most common element found on the earth?

It is silicon and is never found in the pure state but always combined with other elements. Every common rock except limestone contains silicon.

How can you make invisible ink at home?

Ordinary lemon juice, used with a clean pen, leaves no trace when dry; but if the paper is warmed near a fire, the writing becomes visible.

What was the characteristic of early Inca architecture?

The buildings were constructed of giant many-angled stones, each made to fit into a particular part of the structure.

What element is taken as the standard of atomic weight?

Oxygen, with the atomic weight of 16, is the unit.

"Education alone can conduct us to that enjoyment which is at once best in quality and infinite in quantity."
H. MANN.

Which modern ball-game is derived from one played by Red Indians?

Lacrosse, which is a variant of a game played by the Iroquois.

Which are the "noble" gases?

Helium, neon and argon, which are inert and will not combine with the other elements.

What is meant by the principle of "diminishing marginal utility"?

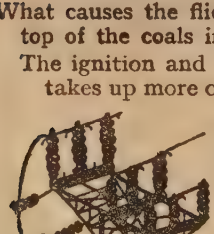
The economic theory that the more a person has of a given commodity, the less satisfaction he gets from the possession of a little more of it.

How did the passing of the Trade Boards Act of 1909 bring about greater efficiency in the running of businesses concerned?

It fixed minimum wages and did away with "sweated labour." Therefore employers had to run their businesses better in order to pay the higher wages.

What causes the flickering blue flame we often see on top of the coals in a closed stove?

The ignition and burning of carbon monoxide which takes up more oxygen from the air and passes away as carbon dioxide.



What is the function of an electrical transformer?

To change the voltage to a higher or a lower one, while at the same time proportionately decreasing or increasing the amperage, as the case may be.

What is the teaching of modern economic theory with regard to the problem of unemployment?

It leads to the belief that a central planning authority could do much to prevent unemployment.

What is meant by the chemical formula: $H_2+O=H_2O$?

It is the chemist's way of stating that two atoms of hydrogen and one atom of oxygen combine to make one molecule of water.

Which are respectively the lightest and heaviest of the chemical elements?

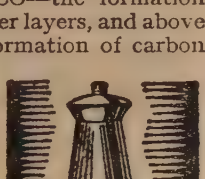
Hydrogen (1·0078) is the lightest, and Uranium (238·14) the heaviest.

What are the formulae to describe the chemical processes going on in a furnace when coal is burning?

In the lower layers, $C_2+O_2=2CO$—the formation of carbon monoxide. In the upper layers, and above them, $2CO+O_2=2CO_2$—the formation of carbon dioxide.

How many pounds of milk go to make a pound of butter?

On an average, it takes the cream from about twenty-seven pounds, or nearly three gallons, of milk.



What is "heavy water"?

A form of water which contains "heavy hydrogen"; the formula is H_2H_2O, and its name "deuterium."

Does a transformer give out all the electrical energy supplied to it?

No; the output is slightly less than the input, on account of losses through heat generated in the apparatus.

Who first discovered that there were two kinds of electricity?

Du Fay, a Frenchman, found out that one kind was produced when glass was rubbed with silk, and another when resin was rubbed with fur or wool.

"Far must thy researches go
Wouldst thou learn the world to know."
SCHILLER.

Who discovered how to produce electricity by chemical action?

Alessandro Volta, who made a pile of zinc, copper and paper disks, arranged in succession, and moistened with weak acid or with salt solution, thus making the first battery.

What is the average consumption of butter per person in Great Britain?

About seventeen pounds per head every year. In Canada it is twenty-seven pounds.

How many eggs do British hens lay every year?

It is calculated that over four hundred million dozen are produced in Great Britain annually.

What is the direction of the current flow in a circuit?

It is customary to say that current flows from positive pole to negative pole, but actually the flow of electrons is from negative to positive.

What are electrons?

Particles of electricity with a negative charge. Atoms of matter are believed to be made up of such particles together with protons or positive particles.

When was refrigeration and cold storage of foodstuffs introduced?

In 1861, though it was not until twenty years later that such equipment came into general use in meat-carrying ships.

What is the main difference between "chilled" and "frozen" meat?

Chilled meat is kept at a temperature a little above freezing-point during storage, whereas frozen meat is maintained at a much lower temperature.

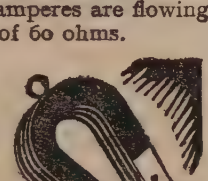
What is the unit by which electrical resistance is measured?

The ohm, named after a German scientist who made some of the earliest attempts to measure resistance in a conductor.

What is the law of electrical resistance?

It can be briefly stated by saying that the volts equal the product of the amperes and the ohms. Thus an apparatus through which 4 amperes are flowing at 240 volts offers a resistance of 60 ohms.

Who first discovered how to produce electricity by moving a magnet near a coil of wire?



Michael Faraday. There is hardly an electrical device in common use to-day that does not depend upon the principle he discovered.

What is the meaning of "60-cycle A.C." used of an electric supply?

An alternating current which goes through sixty alternations of direction each second.

Who built the first Eddystone lighthouse?

Henry Winstanley, an Essex gentleman. It was completed in 1700, and three years later was destroyed by a great storm, Winstanley perishing with it.

What is a common result of lack of organization among workers?

With no such body as a trade union to look after their interests, they are likely to be exploited by unscrupulous employers.

When does competition in production and marketing become a wasteful process?

When it leads to over-production and the lowering of prices below an economic level.

What is a Board of Trade unit of electricity?

A kilowatt-hour. This means a current of 1,000 watts flowing for one hour, and is the unit shown by our meters.

Who was the first to discover electromagnetism?

Hans Christian Oersted, a professor at the university of Copenhagen, discovered in 1820 that an electric current in a wire influenced a magnetic needle near by.

Who drafted America's Declaration of Independence?

Thomas Jefferson, who later became third president of the United States.

Who was the greatest military genius of the American Civil War?

This title is given to Robert E. Lee. Though Lincoln offered him command of all the Union armies in the field, he preferred to throw in his lot with his own people of Eastern Virginia, and became a Confederate leader.

Who was the first to study electricity?

Thales of Miletus, a Greek philosopher. He knew of the attractive power of amber, which he thought was due to a spirit dwelling in the substance.

Who constructed the first frictional electric machine?

Otto von Guericke; he made a globe of sulphur, which he placed on a spindle and turned with one hand, rubbing the globe with the other hand.

Who first proved that lightning was electricity?

Benjamin Franklin; he collected electricity from the air during a storm by means of a kite and an insulated line.

How is the flow of electric current measured?

In the unit called an ampere. It is named after the French scientist, André Marie Ampère (1775–1836).

"All truth is precious, if not all divine,
And what dilates the pow'rs must needs refine."
COWPER.

What is the unit used for measuring electrical "pressure"?

The volt, named after Count Alessandro Volta, the Italian, who made the first battery.

Which unit of electrical measurement is named after a great British mechanical engineer?

The watt, used for measuring electric power. It is named after James Watt, inventor of the practical steam-engine.

How much electrical pressure can we get from an electric cell?

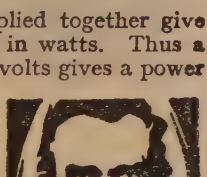
A new dry cell in perfect condition yields 1½ volts; an accumulator gives about 2 volts.

How do we calculate electric power from the current and voltage of a source of supply?

The amperage and voltage multiplied together give the amount of electrical energy in watts. Thus a current flow of ½ ampere at 240 volts gives a power consumption of 60 watts.

Who is known as America's greatest leader?

Abraham Lincoln, who piloted the United States through the difficult days of the Civil War.



Why does unpreserved meat spoil?

Because bacteria or moulds from the air attack it and cause it to decay.

What should be the aim of workers' representatives in bargaining with employers?

From an economic standpoint the aim should be to obtain a rate of wages at which it just pays the employers to use all the workers in a particular industry.

"A little learning is a dangerous thing,
Drink deep, or taste not the Pierian Spring."
POPE.

When were the great meat markets at Smithfield, London, first opened?

The municipal buildings were opened in 1868, but they stand on a site where an ancient market was held as far back as the thirteenth century.

What is a monopoly?

When only one person is in a position to supply a particular commodity we say that he has a monopoly.

In what respect may labour be regarded as a "perishable" commodity?

In the sense that it must be utilized when available, or else it is lost; a week out of work means that the would-be worker has lost for ever a week's wages.

What is the essential purpose of a trade union?

To counter a combination of employers by a combination of workers.

What famous English poet died while helping the Greeks in their struggle for independence from the Turks?

Lord Byron, who raised a brigade of troops at Missolonghi in 1824.

Which tree did the Greeks consider a symbol of prosperity?

The beech.

Which animal has been known to eat boots, sacking, coils of rope and mackintosh sheets?

The Polar bear.

Who invented the game of net-ball?

James Naismith, of Springfield, Massachusetts, U.S.A., in 1891.

What is the name of the sacred book recording the teachings of Mohammed?

The Koran.

Where does chocolate come from?

The chocolate tree, known usually as the "Cacao," is found native in the warmest and wettest parts of tropical America, although to-day most of our chocolate comes from trees planted in tropical Africa.

Who invented the microscope?

Anthony van Leeuwenhoek (1632–1723).

What unit do we use for measuring the degree of fineness of gold?

The carat. When gold is marked "twenty-four carat," it is pure gold. Eighteen-carat gold is only three-fourths gold—there are eighteen carats of gold to six carats of something else, and nine-carat gold is only $\frac{9}{24}$ths gold.

Which government department is the channel of communication between the Crown and its subjects?

The Home Office, which issues proclamations and receives petitions addressed to the King.

When was cricket first played in England?

We do not know definitely, although there is evidence of cricket being played in the thirteenth century. About the year 1550 there was recorded the fact that schoolboys at Guildford played the game; but the first notice announcing a match appeared in 1700, when a game was advertised to be played on Clapham Common, London.

Where is the centre of the world's perfume industry?

In the fields around Nice, Cannes and Grasse in Southern France.

What is the name of the tree whose juice has been made into some of the most beautiful creations of oriental art?

The lacquer tree, which grows in China and Japan.

"Truths on which depends our main concern,
That 'tis our shame and misery not to learn,
Shine by the side of every path we tread,
With such a lustre, he that runs may read."
COWPER.

Which great English statesman also achieved fame as a novelist?

Benjamin Disraeli, Earl of Beaconsfield.

Where was Napoleon born?

At Ajaccio, in the island of Corsica.

How long can a seal remain under water without coming to the surface to breathe?

From a quarter of an hour to twenty minutes. A seal is able to close its nostrils when beneath the surface, so as to exclude the water, and it takes down with it a large supply of air in its lungs.

What is the boll weevil?

A little brownish beetle that has done enormous damage in the American cotton fields. It punctures the flower bud of the cotton plant and deposits its eggs within. Every bud thus entered drops later on when the young grub begins to grow.

How is milk "pasteurized"?

It is heated to about 160° F., is kept at that temperature for a few minutes and is then quickly cooled. Another method is to keep the milk at a somewhat lower temperature for about thirty minutes. This process kills bacteria which would cause souring, and also such germs as those of tuberculosis.

Why should we never let a pot of tea stand long before drinking it?

The "tannin" contained in the leaf is injurious to the health. As the tea stands, more and more tannin is drawn out into the liquid in the pot.

"Then I began to think, that it is very true which is commonly said, that the one-half of the world knoweth not how the other half liveth." RABELAIS.

Which dramatist wrote the greatest number of plays?

The Spaniard Lope de Vega, who is said to have written 1,800.

Why does a diamond gleam?

A Dutchman, Ludwig Van Berguen, in 1475 discovered a method of diamond cutting which now enables us to give these stones all the flashing facets needed to display the fire lurking in their depths.

Why is the sky blue?

The tiny particles in the air, the dust and moisture and atoms of gas, are what keep us from seeing the sky as it really is—a vault of inky black with sun and stars scattered over it. The air—our atmosphere—spreads all the rays of light that are constantly passing through it and screens off all but the blue ones. That is what gives us the azure dome of a summer's day.

Why do salt things make us thirsty?

If we take a great deal of salt at any one time, our bodies cry out for water almost at once. For the blood and all the fluids in which our tissues are bathed get too salt for comfort. Then we feel thirsty and drink enough water to make our blood less briny.

Why do we not fall off the earth?

The force of gravity is ever acting and exerts its power on all bodies in space whether these bodies are specks of dust or giant stars. Newton (discoverer of the law of gravitation) made it possible for mankind to realize that it was living in a realm of law and order. The stars, the sun, the earth, the moon obey the universal law of gravitation. Man must also live his life subject to the law that binds him to the earth and the earth to him.

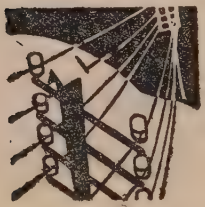
Who discovered Tutankhamen's tomb?

Doctor Howard Carter discovered this tomb in 1923.

Who discovered the South Pole?

Roald Amundsen, a Norwegian explorer, discovered the South Pole in 1911.

What is the heaviest substance?



Uranium, from which radium is derived.

How are sound waves transmitted along telephone wires?

When you telephone, your voice sends sound vibrations against a thin metal disk in the transmitter or mouthpiece. These vibrations produce changes in an electric current, which is carried along a wire until it influences a magnet in the receiver held to the ear of the person to whom you are speaking. When the magnet vibrates the disk in the receiver, sound vibrations are produced which are just like the words spoken.

What makes us tall or short?

There are several special glands that regulate the growth of our bones and thus of our height. One is at the base of the brain and another lies in front of the Adam's Apple. These send their products out into the blood. The products that circulate in the blood-stream are called hormones. Hormones excite cells to action and these special hormones excite the bone cells to growth. When the gland at the base of the brain becomes enlarged through disease the person becomes a giant. When the gland in front of the Adam's Apple does not pour out enough of its secretion, a misshapen dwarf is formed.

What is light made of?

Scientists have never been able to form an entirely satisfactory picture of what a beam of light may be. A recent theory regards light as a stream of tiny parcels or "quanta" of energy called "photons."

Why do we give eggs at Easter?

Easter is the oldest festival in the Christian world and the old custom of having Easter eggs comes down to us from festivals held in far countries thousands of years ago. For many peoples of the ancient world believed that spring was really dead, and sometimes they believed that winter was a giant who held spring in prison, so they offered him all sorts of presents to bribe him to set spring free, and to thank him when he had done so. The egg, with its chicken inside, represented the coming of sunshine and the birth of plants and animals. In Catholic lands eggs were forbidden during Lent and so these were a welcome gift on Easter Sunday after the long weeks of restraint were over.

Why do bees swarm?

When a new generation of bees that are to become queens is hatched the old queen grows angry and excited, and her excitement spreads throughout the hive. The bees rush in and out of the hive, swirling round in clouds like puffs of smoke. They rush up into the store chambers and gorge themselves with honey, and at last the old queen-mother, in the midst of a swarm consisting of perhaps half the hive, flies away to start a new colony.

Why does the doctor feel our pulse?

Every time the heart beats there is a pulse or beat in the arteries that anyone can feel. By counting the number of beats per minute a doctor is able to estimate the condition of the heart and of the artery itself.

Where are the kings of England crowned?

On the Coronation Chair in Westminster Abbey.

Where do the swifts go in the winter?

About mid-September, or early October, swallows depart on their long, dangerous journey to their winter quarters in Africa and India.

"The wretch who digs the mine for bread,
Or ploughs that others may be fed,—
Feels less fatigue, than that decreed
To him that cannot think or read."

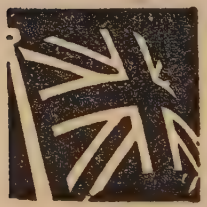
HANNAH MORE.

Where do the stars go in the day-time?

The stars are always shining. When the sun comes up they seem to disappear, as they cannot be seen when the sun has made the whole sky as bright as they are.

Where does snow come from?

Snow is formed when the moisture in the air condenses at a stage below freezing-point and falls through layers of air that are too cold to melt it.



What do the three crosses on the Union Jack symbolize?

St. George, St. Andrew and St. Patrick, the patron saints respectively of England, Scotland and Ireland.

Where are dogs made to work?

Dogs are used by the Eskimos in arctic Greenland to draw their sleds. They are also used in Belgium to draw small two-wheeled carts. Traction by dogs in this country is illegal.

Which great English statesman and writer has been described as "the wisest, brightest, meanest of mankind"?

Sir Francis Bacon (1561–1626). These words were applied to him by Alexander Pope.

Which is considered to be the greatest comic character created by Shakespeare?

Sir John Falstaff.

Why do we write "lb" for pound?

This abbreviation is derived from the word "libra," used by the Romans to denote a pound-weight.

"The clouds may drop down titles and estates;
Wealth may seek us, but wisdom must be sought."
YOUNG.

Which insect steals honey from bee-hives?

The death's-head hawk moth.

What English poet ended his life by taking poison at the age of seventeen?

Thomas Chatterton (1752–1770).

Why are fogs densest in the cities and industrial districts?

Because the soot in the atmosphere provides millions of particles of dust on which water vapour can condense.

Where is the deepest part of the sea?

In 1773 a famous navigator made the first recorded measurement of deep waters of the ocean when he took a sounding at some 680 fathoms or 4,080 ft. Now a depth of over 8 miles has been measured in the Atlantic Ocean and one of over 6½ miles in the Pacific. The Pacific is the deepest of all the oceans, its average depth is 2¾ miles.

Where is the densest vegetation?

In the steaming-hot valleys of the Amazon and Congo, in some parts of India, and in most of the islands of the East Indies such as Borneo and Java.

Where is the world's largest telescope?

The telescope is at Mount Wilson Observatory, California, and shows probably not less than a thousand million stars that are accounted to be of the 21st magnitude.

Where do storks build their nests?

On the roofs of houses and the tops of church towers.

Where do the mighty gorillas live?

In the depths of the gloomy West African forests.

When was the North Pole discovered?

Robert Edwin Peary reached the North Pole on April 6th, 1909, the first man to do so.

"Truth informs the judgment, rectifies the mind, Pleases the understanding, makes the will."

BUNYAN.

When was Paris saved by a saint?

When Paris was threatened by the terrible Attila, "the scourge of God," in A.D. 450, the people turned to the gentle Geneviève of Nanterre, who had long been devoted to the service of God. Geneviève told them not to flee but to be of good cheer and to stand their ground. Let them hope and trust in God, she said, and do deeds of repentance and penance. Then surely God would turn the Huns aside, and Paris would be saved.

And it was as she had said. This is the first of many miracles that she is said to have performed. St. Geneviève is now the patron saint of Paris.

What makes the weather change?

The winds, which are actually huge convection currents in the earth's atmosphere, resulting from unequal heating of the earth's surface by the sun.

How many elements are there?

There are only ninety-two different elements in our earth and atmosphere—and probably in the entire universe.

How old is the oldest tree?

Among the oldest trees in the world are the giant sequoias, or "big trees," of California. Some of them are calculated to be over four thousand years old.

How do we know the earth is round?

Every time we see a ship rising above the horizon as it approaches us, it proves that the earth is round. For there could be no other explanation of the fact that the tops of the masts come into sight long before we are able to see the hull.

"'Tis strange, but true, for truth is always strange ;
Stranger than fiction ; if it could be told."

BYRON.

How did the Red Sea get its name ?

It is so named because, for a part of the year, long stretches of it are red. The red colour is due to the presence of numerous simple plants of the kind we call algae.

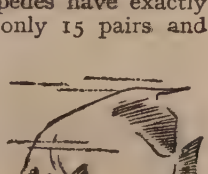
Who discovered radium ?

Madame Marie Curie (1867–1934), assisted by her husband Pierre, discovered the element radium while refining pitchblende in the year 1898.

How many feet has a centipede ?

In spite of their name few centipedes have exactly 50 pairs of feet. Some have only 15 pairs and others as many as 100.

Why is an angel fish so brightly coloured ?



Because its colours blend with the bright corals amongst which it lives, thus enabling it more easily to hide from its enemies.

Who preached to the birds and fishes ?

St. Francis of Assisi, born in Assisi about 1182.

How deep can a diver descend ?

The greatest depth to which man has descended in the ordinary collapsible diving suit is about 300 ft., but another method has recently been devised by the naturalist, Dr. William Beebe, who has descended over a depth of 3,000 ft. in a metal ball.

When was the Great Pyramid built ?

Khufu or Cheops, Pharaoh of Egypt, built it about 2900 B.C. It covered nearly thirteen acres and is higher than any building in London. 100,000 men had to work for 70 years to build it. No other building in the world is so heavy.

When was the Klondike gold rush?

In 1896 gold was discovered in Alaska and Northern Canada, and the Klondike rush began. The men struggled over ice and snow with frozen hands and feet to stake out claims. Many died of cold and hunger, thousands more found nothing and lost their all; but a few returned very rich.

When was the word "tennis" first used?

Tennis used to be played in the moats of mediaeval castles in time of peace, but the name tennis was not given to the game until 1400, when it appears in a poem by the English poet, Gower, called "Balade unto the Worthy and Noble Kynge Henry the Fourth."

When did Turkey become a republic?

In October, 1923.

When were the Houses of Parliament built?

In 1843.

What set the sun on fire?

"In the beginning"—as the book of Genesis says—we find all is darkness, peopled by billions of atoms that are really tiny particles of electricity. As they move about in space they tug and strain at one another with all their might; and as they slowly draw closer and closer together, they form something that looks like a gigantic cloud. It gets thicker and thicker until it glows like a fiery mist. It is heat and light like that still burning in our sun to-day. But whence comes the heat of the cloud? We are not at all certain about it, but the theory is that as it shrinks or contracts the cloud or nebula becomes hotter, for the energy of the gas molecules is transformed into heat. So we believe that our first great cloud continued to shrink and went on getting smaller and hotter until at last it became the fiery body we call the sun.

"Wise kings have generally wise councillors, as he must be a wise man himself who is capable of distinguishing one." DIOGENES.

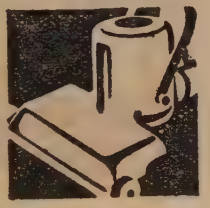
When was Australia discovered?

In April, 1770, by Captain James Cook.

What makes coal burn?

Lavoisier, a French scientist, proved that about one-fifth of our atmospheric air consists of oxygen. Priestley, an English scientist, proved that it is oxygen that makes things burn. The oxygen in the air combines with the coal after the latter has been raised to its kindling point by a flame. It is this chemical combination of oxygen with the coal which produces heat that we call "burning."

How does a vacuum cleaner work?



A rapidly moving fan sucks the air away from the top of the rug into the bag. For an instant the air pressure above the rug is thus reduced. The normal air pressure then rushes towards the region of reduced pressure. In doing so, it blows through the fabric of the rug, thus carrying the dust and dirt with it into the bag.

Who invented the telescope?

Galileo, an Italian, became famous for all time when in 1610 he made his improved form of telescope—which had been invented by a Dutch optician, Lippersley, a few years earlier.

Who made the first camera?

An Englishman, named Robert Boyle, seems to have made the earliest camera in about 1670.

How fast does sound travel?

Sound waves travel through the air at a speed of about 1,100 ft. per second.

Who wrote "Alice in Wonderland"?

Lewis Carroll (Charles Lutwidge Dodgson).

"If circumstances lead me, I will find
Where truth is hid, though it were hid indeed
Within the centre." SHAKESPEARE.

Do you know that at one time temples were erected to Old Father Time?

Father Time is none other than the Roman god Saturn; through a misunderstanding, he was thought to be the same as the Greek god Chronos, who carried a sickle and ruled over the harvest.

How did the poet Oliver Goldsmith earn his expenses when travelling on the Continent?

By playing the flute and by arguing. To those left untouched by his music, he would offer to earn a meal by arguing on any subject they might suggest.

What has been the most labour-saving invention of mankind?

The wheel.

When was a politician sent into exile because he would not part with a favourite stone?

It is related that Mark Antony, who lived in Rome in the first century B.C., thus punished a certain senator who refused to give up an engraved gem on which Mark Antony had set his heart.

What bishop was also a famous goldsmith and after his death was made a saint?

Eligius (588–659), bishop of Noyon, in France, who is still reverenced as the patron saint of workers in fine metals.

Why would a Roman criminal on his way to execution be thankful to meet a vestal virgin?

Because these maidens, who guarded the sacred fire in the Temple of Vesta, and were held in the highest honour, had the rare privilege of pardoning any condemned person whom they might chance to observe.

What is the difference between a univalve and a bivalve?

A univalve has a single shell, and a bivalve a double one.

What were the three things that every boy of ancient Persia was taught?

According to Herodotus, the Greek historian, they were: to ride, to shoot, and to tell the truth.

How do the leading daily newspapers gather their news?

They have their own representatives in the principal foreign capitals, and correspondents in the chief provincial towns. Special reporters are sent to deal with important events. Besides these news-gatherers of their own, the newspapers make use of reporters maintained by the various news-agencies, such as the Press Association. Reuter's agency reports foreign news.

Why does a man weigh more at the Poles than at the Equator?

Because the earth is flattened at the Poles and there a man is nearer to the centre of the earth and the pull of gravity is greater.

What is the weight of a sheet of water one inch in depth and spreading over one square mile?

About sixty-four thousand tons.

Who was the first king of all Denmark to be baptized a Christian?

Harald Bluetooth, who organized the early Danish church.

Who was the first president of the German Republic?

Friedrich Ebert, elected by a national assembly on February 6th, 1919.

Was South America inhabited before Europeans landed there?

Yes, by many distinct Indian tribes, speaking over eighty different languages. The most famous of these South American Indians were the Incas of Peru.

What Eastern monarch was driven from his country for attempting to introduce European ideas and customs?

King Amanullah of Afghanistan.

When were postal orders introduced in Great Britain?

In 1881.

How many parcels are delivered by the Post Office every year?

About 160,000,000.

In what part of the world is the orang-utan to be found?

In the hot forests of Borneo and Sumatra.

Is the whale a fish?

No. Although it looks very much like a big fish and spends all its life in the sea, it is a true warm-blooded mammal whose ancestors, so far as we can tell from their fossil remains, were hair-clad, land-dwelling animals. Within the flipper of the whale is a bony hand with fingers, and the whole structure of the creature is that of a mammal.

What famous poet and critic was an inspector of schools?

Matthew Arnold (1822–1888). He held the post from 1851 until a few years before his death.

What was a "postern-gate"?

The private entrance to a mediaeval castle.

What great modern scientist has rebuilt our old ideas of space, time and matter?

Albert Einstein, author of the theory of relativity.

How much money would a pound of radium be worth?

Radium is very rare and extremely difficult to produce. It would take approximately six million pounds of uranium ore to produce a pound of radium, and that pound of radium would be worth £6,400,000